THE BRICKBUILDER

VOLUME XXIII — NUMBER 12

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WATER COLOR DRAWING OF DESIGN
FOR A CHURCH FAÇADE

HENRY WILSON, ARCHITECT AND DELINEATOR

THE BRICKBVILDER

VOLUME XXIII DECEMBER, 1914 NUMBER 12

The American Theater.

ITS ANTECEDENTS AND CHARACTERISTICS.

By HUGH TALLANT.

THIS is the first of a series of articles which will capably treat of the development of the Modern American Theater Auditorium from both its practical and artistic sides. The author, Mr. Tallant, brings to this work his long and varied experience in the design of important theaters which assures an authoritative discussion of the subject. He has designed in partnership with Henry Herts among other theaters, the New Amsterdam, New York, and the Brooklyn Academy of Music, both well known examples.

He was born in Boston, in 1869, attended Roxbury Latin School and took the A.B. and A.M. degrees at Harvard in the class of 1891, received the Diplômé par le Government Français at the Ecole des Beaux Arts in 1896, subsequent to receiving numerous medals during his course, covering mathematics, modeling, and architectural design. He is a member of the standard art, architectural, and scientific societies, and is a frequent and appreciated contributor to THE BRICKBVILDER. — EDITOR'S NOTE.

INTRODUCTION.

"GOOD building," says Sir Henry Wotton, "has three essentials: commodiousness, stability, and pleasing."* It must be practical, safe, and artistic. Development may result from progress in either of these directions; it is sure to follow progress in all three. Within the last generation this country has seen a general advance in the conditions of living, the methods of construction, and the principles of architectural design. The natural result has been the development, if not of a distinctively American art, at least of certain distinctively American types of building.† Our sky-scrapers, hotels, and apartment houses are to-day as individual in treatment as they are unprecedented in size. Our great railway terminals are almost equally characteristic in appearance. Even our more modest buildings, such as libraries, schools, hospitals, and banks, are rapidly assuming a consistent and appropriate exterior.

This movement is strikingly illustrated in the case of our theaters and music halls. Thirty years ago they were designed and constructed along the same lines as their English prototypes. They had the same subdivision of the seating on the main floor — the American distinction between parquet and parquet circle corresponding to the English separation into stalls and pit. They had the same stage-projection or apron, the same horseshoe balconies, the same eternal decoration of florescent columns, grotesque masks, and pudgy cupids. Three decades have wrought notable improvements on both sides of the Atlantic; but while the foreign playhouse still retains much of its original character, our own has undergone a complete transformation. The seating is now continuous from front to back of the main floor. The balconies have become flat and deep, the projecting apron has disappeared, and the trite and cumbersome embellishments are rapidly falling into disfavor. The American theater of to-day is inviting — even cozy — in its interior decoration, and has acquired an individuality in arrangement and construction which is essentially its own, and from which it is not likely soon to deviate.

The practical side of this evolution was largely the achievement of a single architect, Mr. J. B. McElfatrick, who might well be called the Father of the American Theater. The writer remembers him well, — a kindly, genial old gentleman, quite willing to pass along to the rising generation the experience which he had painstakingly extracted from the hundreds of theaters entrusted to his care. The general characteristics of his work and of that of his contemporaries are described in the treatise on "American Theaters," published in 1896 by Mr. William A. Birkmire. The technical details are precised in the New York Building Code of 1899. To this data the following pages will add a summary of previous and subsequent conditions. An introductory outline of the theaters of Greece, of Rome, and of the Renaissance will suggest the historic antecedents of the modern playhouse and will furnish certain practical information concerning the lay-out of open-air auditoriums. It will also serve to explain the mutual interdependence of the theater and the drama, and to show why certain types of the one are specially adapted to corresponding types of the other. The main discussion will then cover in order the various characteristics of the up-to-date American theater, — its design, construction and arrangement; and its principles of seating, sighting, ventilation and acoustics. In this way, it is hoped, definite light may be shed on what is, perhaps, the most comprehensive and difficult problem with which the modern architect is called upon to cope.

The writer is already indebted to Prof. Brander Matthews and to Mr. John Corbin for many valuable suggestions, and to Mr. E. R. Smith for great help in matters of literary research. Further obligations will be acknowledged as incurred.

* Bona aedificatio, tres habet conditiones: commoditatem, firmitatem & delectationem — Elementa Architecturæ collecta ab Henrico Wottonio, Equite, etc. See also the introduction to "The Architecture of Humanism," by Geoffrey Scott.

† See the articles on "Distinctive American Architecture," by Montgomery Schuyler and Aymar Embury II, which have appeared in THE BRICKBVILDER during the past year.

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PART I. HISTORIC ANTECEDENTS.

THE THEATERS OF GREECE, ROME, AND THE RENAISSANCE.

IT IS often said that the theater is the complement of the drama. To a certain extent this is the case; but it is to be noted that while the theater exists solely for the purposes of the drama, the drama, on the contrary, exists primarily for the expression of human sentiment, and merely conforms of necessity to such architectural restrictions as are imposed upon it.* As a result, its development has always anticipated that of the theater, progressing faster in every period of great intellectual activity, and arriving sooner at its fullest and noblest expression. The tragedies of Æschylus and Sophocles were witnessed by audiences on rough wooden benches a century before the first stone proscenium was erected. Terence and Plautus saw their plays enacted in temporary enclosures on the hillsides of Latium; while Shakespeare staged his masterpieces in structures little better than an open courtyard, and devoid of artificial light or scenic facilities. Thus the history of the theater becomes largely a corollary of the history of the drama, and in tracing the origin of its various phases we shall find that the bacchanalian revels of an almost prehistoric generation dictated the ultimate arrangement of the classic hemicycle, and that the miracle and morality pageants of the early Renaissance have transmitted their reminiscences to the American playhouse of to-day.

* * * * * * *

The Greek theater apparently had no prototype. It was an indigenous creation, which grew up in response to the increasing demands of the drama. In its earliest and most rudimentary form it consisted of merely a circular dancing-place, or orchestra,† marked out on level ground by means of a narrow margin of flat stones. Here, on the occasion of the annual festivals of Dionysus, the god of wine and growth, the bacchantes exhibited their newest steps and shouted their triumphant chorals,‡ while spectators gathered around the ring from all directions. At first the performances were wholly amateur — in fact, many of them were in the nature of a social entertainment, or *komos*,§ and as such came to be known as *comedies*.‖ The more important, however, were thoroughly religious in character. They were always preceded by the sacrifice of a *tragos*,¶ or goat, from which fact they acquired the name of *tragedies*,** although they were not necessarily tragic, in the modern sense of the word, except so far as the unfortunate goat was concerned. Some idea of their character may be inferred from the archaic relief depicted in Fig. 1. Here we have two performers engaged somewhat strenuously in music and dance, while between them stands an attendant holding in his hand the knife with which he has just performed the initial sacrifice. Costume is evidently a matter of secondary importance for the purposes of this production, but the musical instruments seem almost as well developed as those of later days.

As time went on these exhibitions gradually became less ceremonial and more distinctly dramatic in form; but they never lost their association with the worship of Dionysus, even after they had grown into distinctly literary contests and were carried on exclusively by professional actors and musicians.

The first step toward the development of actual drama was the introduction of a dialogue between the *coryphæus*,* or leader of the chorus, and the other bacchanalians. For this purpose the coryphæus — following an impulse still prevalent under similar circumstances — used to mount upon the sacrificial table which stood beside the altar in the center of the ring, and which thus became the prototype of the later Greek stage. Thespis is said to have been the first to conceive the idea of introducing an actor in the place of the coryphæus, who, from this time on, was relegated to his original station among the chorus. The dialogue was also enlarged into a series of impersonations, which resulted in the erection of a *skené*,† or tent, just outside the circle, in which the actor could change his dress and mask. The sacrificial table was replaced by a platform located, for convenience, directly in front of the tent, and called on this account the *proskenion*;‡ while to make good the loss of standing room entailed by this change, which confined the spectators to about two-thirds of the original circle, the orchestra was marked out, whenever possible, at the foot of a hillside, so that the audience could be accommodated on successive rows of benches rising one above the other up the slope.

Of course these early structures were rough affairs, knocked together temporarily for festival purposes like the bandstand and pavilion of a modern county fair, yet in their general features and arrangement they exhibited all the essential characteristics of the splendid stone hemicycles of later classic days, and even of our own playhouses of the last generation. How slight was the progress of two and a half millenniums will be seen from Fig. 2. At A is shown the typical arrangement of the Attic theater of the latter half of the sixth century before our era;§ at B the plan at approximately the same scale of the small theater at Pompeii; and at C the main floor of the American Theater, opened in New York City in 1893. The similarity of arrangement is obvious. Not only is the relative position of dressing rooms, stage, and auditorium identical in the three cases, but the arrangement of the Greek *ikria*,‖ or benches, enclosing the orchestra, is precisely duplicated in the American theater by the parquet circle enclosing the parquet. Even the nomenclature of the Greeks has come down to us with but slight variation in form and meaning. Their *orchestra* served for both dancing and music, while ours serves only for the latter. Their *proskenion* was the stage itself, while our *proscenium* is the frame around the stage. Their *skené*, while primarily a dressing room, served also as a background for the stage picture, like the *scene* on our back-drop. Finally,

* The influence of the theater upon the drama is discussed on pages 44 to 53 of "A Study of the Drama," by Prof. Brander Matthews.

† ὀρχήστρα.

‡ The dithyramb (διθύραμβας, from δίος, descended from Zeus, and θρίαμβος, a song or shout of triumph) was introduced among the Dorians from Crete, where it was used to celebrate the birth of Dionysus.

§ κῶμος. ‖ κωμφδια. ¶ τράγος. ** τραγφδια.

* κορυφαῖος. † σκηνή. ‡ προσκήνιον.

§ This drawing is based on the description contained on page 81 of "The Attic Theater," by A. E. Haigh and A. W. Pickard, Cambridge.

‖ ἱερια.

they spoke in a general way of the auditorium as "the theater,"* just as we speak of it as "the house."

Dramatic exhibitions were introduced into Athens about the middle of the sixth century before our era.† At first they were a matter of private speculation, but towards the end of the century they were taken over by the state and placed in charge of a special official. From this time on, they became contests in literary and musical skill. As has already been mentioned, they occurred only in connection with the annual festivals of Dionysus; and as only two of these — the Lenæa and the City Dionysia — were of any civic importance, the celebrations were looked forward to with corresponding eagerness. Unfortunately, the Lenæan festival occurred in January, and at that time of year even an Athenian was apt to find his literary enthusiasm somewhat chilled after a few hours of immobility upon an open bench. The City Dionysia, however, was held at the end of March, when the season was favorable and when the city was crowded with visitors, with the result that all Greece was present at these spectacles. Even the poorest could attend the show if they wished, for according to a measure framed between B.C. 422 and 404, every Athenian citizen could obtain the price of a seat — two obols — if he cared to apply for it. Admission was by checks of lead, bone, or bronze similar to those shown in Fig. 3, which is reproduced from the *Journal International d'Archéologie Numismatique* for 1898.* On one side they usually bore a head of Athena, and on the other a letter corresponding to a section of the auditorium. Within the limits of the section it was apparently a case of "first come first served," and as the performance was continuous from sunrise till dark, the spectators came early and brought their lunch, while hucksters plied a profitable trade in wine and raisins. Under such conditions business was at a standstill during the five or six days of the festival, and all classes gave themselves up to what they euphemistically called the worship of the wine god. The law courts were closed; a general moratorium on all debts was declared; and even prisoners were temporarily released from jail by a suspension of regulations similar to that recently in vogue at Sing Sing.

Apparently these performances had already been assigned to definite locations before the end of the sixth century B.C. The site of the Lenæa is unknown, but that of the City Dionysia has been identified with an ancient orchestra, whose remains have been discovered on the southern slope of the Acropolis, in what was known as the Sacred Enclosure of Dionysus Eleuthereus. In order to bring the grade of this dancing place to the desired level, it was necessary to cut down into the rock on the north and to terrace up on the south. Traces of the cutting and two fragments of the retaining wall still indi-

* θεατρον — Latin theatrum.

† Thespis is said to have won the first tragic competition in the year B.C. 535, but he had for some time been conducting dramatic exhibitions on his own responsibility.

* The article in question, περὶ τῶν Εἰσιτηρίων τῶν ἀρχαίων, by I. N. Σβόρωνος, contains many other specimens of these checks, together with a diagram showing the lettering of the various *kerkides*, or sections (κερκίδες, Latin *cunei*), into which the Dionysiac Theater was divided.

FIG. 1. ARCHAIC RELIEF DEPICTING GREEK THEATRICALS

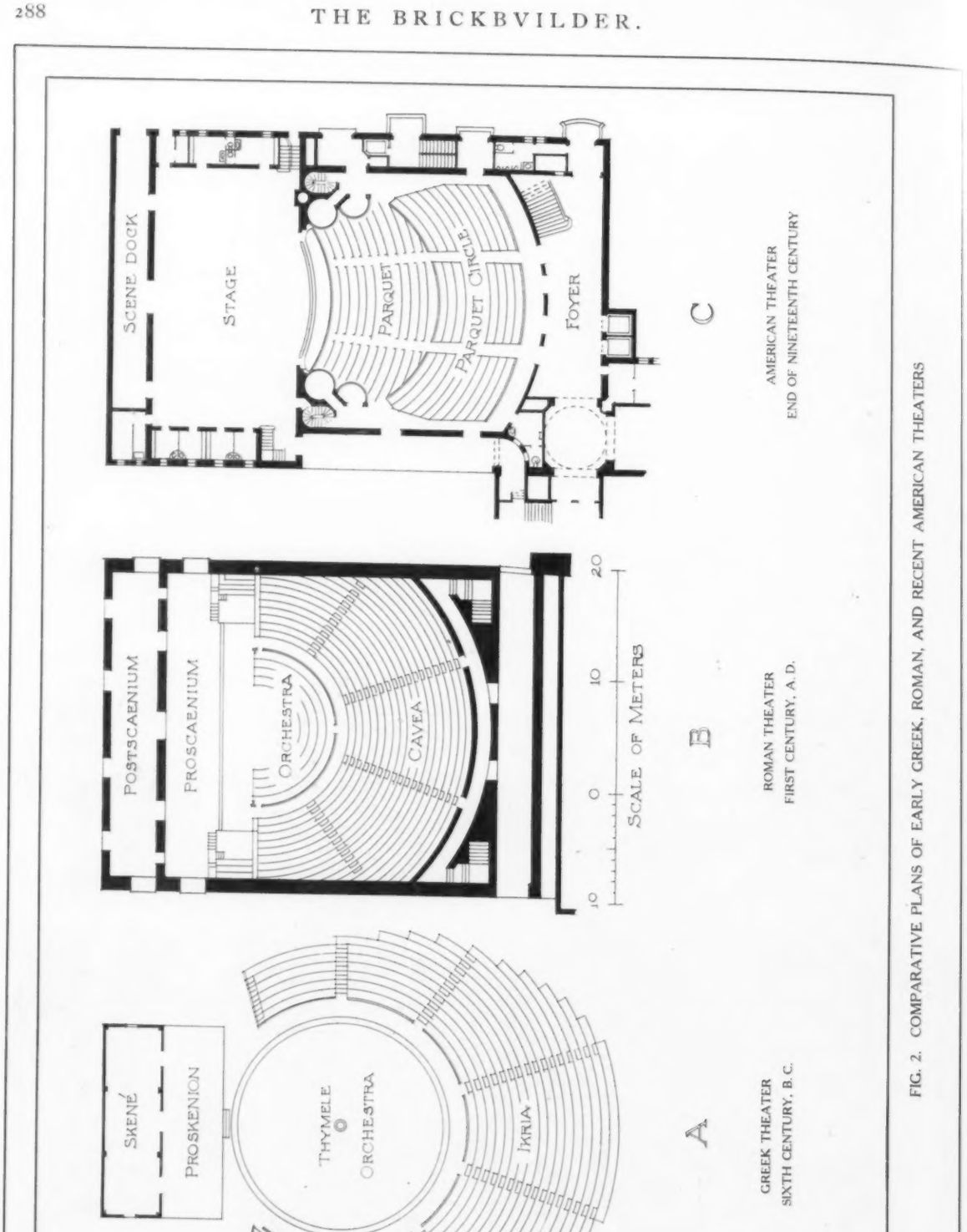


FIG. 2. COMPARATIVE PLANS OF EARLY GREEK, ROMAN, AND RECENT AMERICAN THEATERS

cate the exact size and position of the circle. It is shown on Fig. 4 by a dotted line, and, as will be seen, was located a few yards to the southeast of the stone paved orchestra of later days.

While the constructions of this date may have been permanent, they must have been laid out in an altogether incidental manner, to judge from a bit of slang which was long current at Athens. According to this saying, a bad seat at the play was known as the "view from the poplar." The explanation was that at the old performances the benches ran as far as a certain poplar, and that latecomers who could not find seats elsewhere used to perch themselves in the tree. It also appears that the wooden supports by which the benches were carried at an even level were none too strong, for in B.C. 499 a number of them collapsed, occasioning a serious accident. To avoid a repetition of such a mishap the new ikria were supported on earthen embankments. Certain portions of this fill can still be distinguished by the character of the rubbish which it contains.

The new theater proved so satisfactory that it soon attracted all the lyric and dramatic performances from the Lenæum and elsewhere. It was here that the prize for tragedy was won by Æschylus in B.C. 472, 467, and 458, by Sophocles in 438, with Euripides second, and in 428 by Euripides first. We cannot avoid a momentary feeling of disappointment when we realize that the works of these immortals were first produced in wooden buildings devoid of all architectural embellishment, before an audience huddled on wooden benches which were probably nothing more than boards resting on wooden supports driven into the ground below. However, it is only within the last few weeks that the football fans at Yale and Princeton have been accommodated on anything better, and those who have witnessed the enthusiasm which has been evoked upon occasion from the occupants of the old wooden bleachers will question whether any finer frenzy will ever be developed above a masonry construction. After all, once the seats were filled, the effect of the Athenian hemicycle was much the same, whether the ikria were made of wood or limestone; the evolutions of the dancers were almost as effective on solid earth as on a pavement; and the background of the play was in any case largely provided by the painted wooden screens, or pinakes,* which were used for purposes of scenic effect. When twenty thousand spectators acclaimed the crowning of the successful poet *and his stage manager*,† the ovation must have dwarfed anything accorded to-day to a successful playwright or impressario. Some things were done better in the Athens of twenty-four centuries ago than they have since been done, *even in France*.

* πίνακες. † χορηγός.

FIG. 3. ADMISSION CHECKS TO THEATER AT DIONYSUS, GREECE

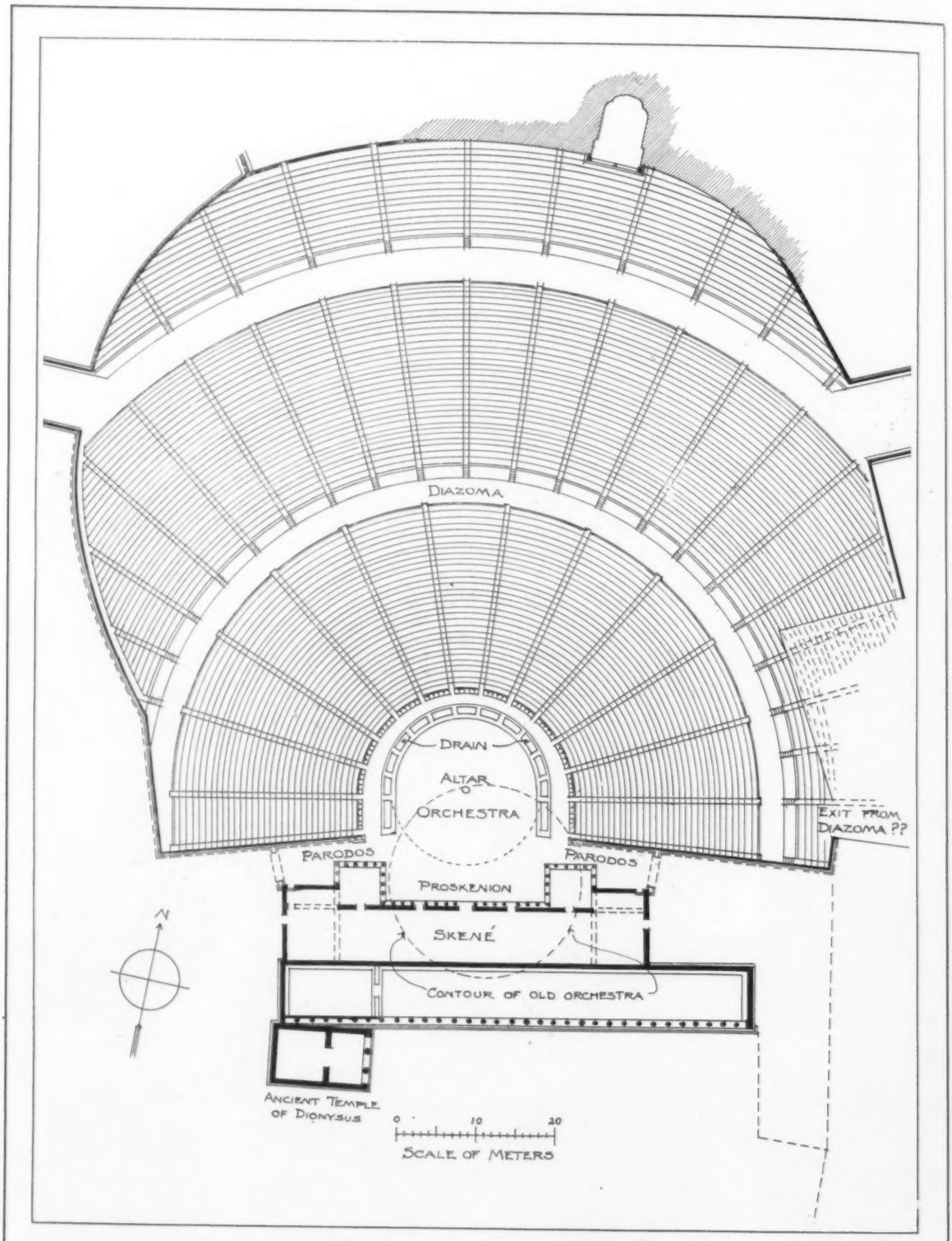


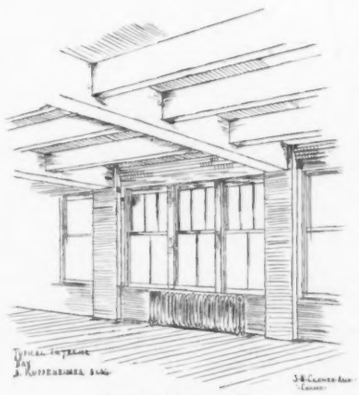
FIG. 4. ORIGINAL PLAN OF THE DIONYSIAC THEATER AT ATHENS

Efficient Planning in Mercantile Structures.

THE KUPPENHEIMER FACTORY BUILDING, CHICAGO, ILL., S. N. CROWEN, ARCHITECT.
THE WENTER & DRECHSLER STORAGE WAREHOUSE, OAK PARK, ILL., GEO. S. KINGSLEY, ARCHITECT.

THE word "efficient" is one that we very frequently hear spoken in these days of commercial activity,—many times, it is true, with little knowledge of its real significance,—nevertheless, it has a definite meaning, and efficiency is a quality that is now recognized and earnestly sought by manufacturers and, furthermore, one which must be taken account of in every serious constructive business that hopes for any degree of success.

Competition has reduced the profits in some industries to such an extent that the production cost had of necessity to be reduced to the lowest point consistent with the quality of the product to insure a fair return on invested capital. This circumstance directed the attention of the manufacturers to means for gaining a larger and steadier output from the same number of operators. This was followed in turn, through the agency of efficiency experts, by an investigation into the conditions under which the employees worked. Little effort was required to conclusively demonstrate that the maximum labor efficiency of employees could only be obtained by providing working quarters which would be conducive to those qualities in the workers which in themselves would produce the maximum efficiency.



Sketch of Interior Bay

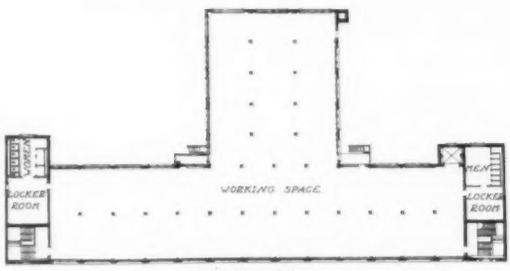
Thus, it is now well known that a factory building must have the largest possible amount of daylight, must have sanitary arrangements, must have good artificial lighting, must supply pure drinking water to the workers, and, what is perhaps most important, have a constant and abundant supply of pure air, warmed or cooled as the season of the year demands.

While these requirements have long been deemed necessary and advocated by architects and engineers, it has taken a long time to bring about their adoption, even in a small way. They are, however, now admitted to be the essentials underlying all successful manufacturing enterprises, and in the United States each succeeding year more and more factory buildings are being erected which are models in this respect. Although many architects have interested themselves in the development of these buildings embodying modern principles, no definite type of building has yet been evolved which has received general acceptance or recommendation as the best structure considered from the points of low first cost, convenience of arrangement, and durability, so that each new factory building which evidences modern attention to detail in its planning is of great interest to all concerned in the development of this type of structure.

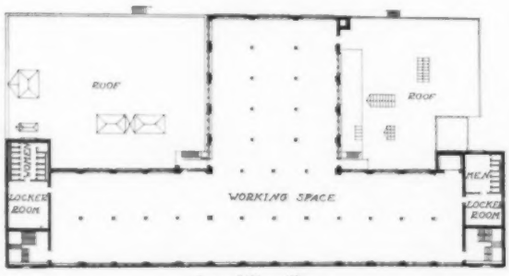
In the new factory built for B. Kuppenheimer & Co.,

Factory Building for B. Kuppenheimer & Co., Chicago, Ill. S. N. Crowen, Architect

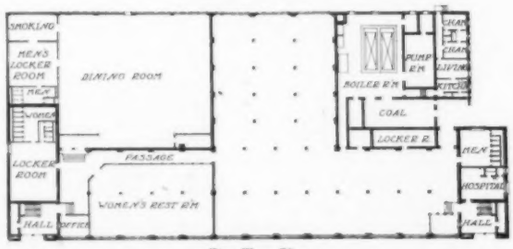
the second largest manufacturers of men's clothing in this country, some noteworthy results have been obtained. As a preliminary to the actual work of construction, the services of the architect were retained for one year for the study and analysis of their existing factory conditions, with a view of merging several of their shops into one building, which would be ideal from the standpoints of economy in construction, adaptability to their requirements, and, what they considered most important of all, the greatest comfort and welfare of their employees. The success of this building in fulfilling these conditions to the satisfaction of owners and welfare of the operators is a strong indorsement of this method of approaching the design of a permanent building which is to house a large industry. Furthermore, it is essential and absolutely necessary to the economical design of any structure of this type that the designer should have a good, clear understanding



Third Floor Plan



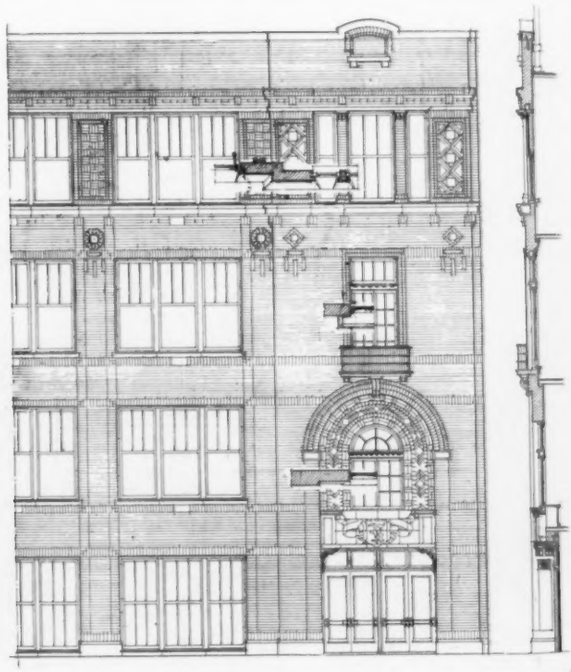
Second Floor Plan



First Floor Plan

of the working machinery and the processes involved in the manufacturing carried on in the building. In too many cases factories are built first and the machinery placed afterwards, by engineers many times, but in many others by the shop foreman.

While the latter may be very practical, as the term is applied, more often than not the resulting use of the floor space is far from economical. Much machinery has to have special foundations, it has to be connected with electric current or other medium for power, all of which, if not properly allowed for in the construction plans, means a great deal of cutting and other damage to the finished building. On the other hand, if these accessories are considered in the construction plans, aided by a study of the progress of materials through the shop, there will be little lost motion, and the finished building will be as economical in point of operation, administration, and construction as modern engineering and



Details of Façade and Entrance Bay

Factory Building for B. Kuppenheimer & Co., Chicago, Ill.

S. N. Crowen, Architect

architectural experience can obtain.

The architect having acquired a working knowledge of the operations underlying the manufacture of Kuppenheimer clothes, a list of the company's requirements for their building was prepared and checked over with the management, and with this and the proposed site as a working basis the preliminary sketches were prepared to embody the following conditions: the building was to be not over four stories high, must accommodate sixteen hundred workers, four hundred to a floor, sixty per cent male and forty per cent female, and all working spaces to have the maximum amount of daylight.

COST DATA, KUPPENHEIMER BUILDING.

Areas given below are the square foot floor areas of actual clear space.

Disposition of space.	Square foot area.	Per cent of total.	Average cost.
Stairs, elevators, and halls	5,526	6.4	$9,526.82
Women's rest, locker, and toilet rooms	7,548	8.9	13,012.55
Men's rest, locker, and toilet rooms	5,241	6.1	9,035.48
Factory work space	55,332	65.2	95,606.31
Janitor's Apartment	835	.9	1,439.54
Offices	300	.3	517.20
Dining rooms, kitchens, and service halls	5,640	6.5	9,723.36
Hospital	408	.4	703.40
Mechanical equipment	4,614	5.4	7,942.54
Total clear floors space	85,544	100.	$147,507.20

Total cubic contents ..... 921,920 cu. ft.
Cost per sq. ft.... $1.724 Cost per cu. ft.....$0.16

The area of the site comprised some 34,000 square feet, yet to obtain daylight for every square foot of working space only 18,000 square feet are occupied by the major portion of the building itself. The plan is T shaped, the main wing having a frontage of 259 feet and a depth of only 50 feet, with one row of columns in the center. The other wing running at right angles to the rear is also 50 feet wide and likewise lighted on both sides, so that no space in the interior is at a greater distance than 25 feet from the source of natural light.

Inside every provision has been made to retain and reflect the light which the shape of the building and its many openings allow to enter. The walls are lined to the full height with white enameled brick, which provides no lodging place for dirt, and can be easily cleaned, making the walls a constant reflector of practically all the light that enters.

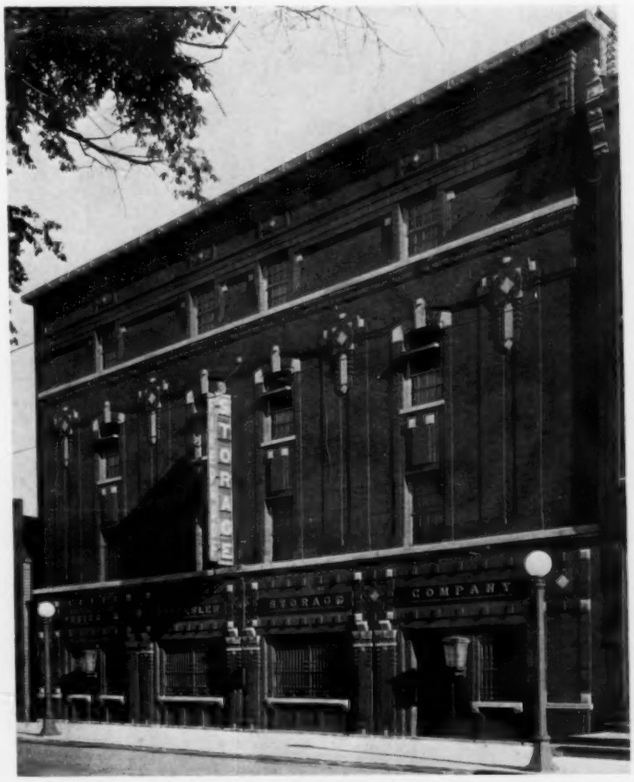
The building has no basement, the ground floor occupying part of the courts to give space for boiler and machinery rooms as well as the janitor's apartment, all of which are separated from the main building by masonry walls. Half of the first floor area is given over to rest and recreation rooms, also a large dining room and kitchen capable of serving six hundred workers at one time. This portion of the building is so arranged as to permit the workers, the majority of whom live in the immediate vicinity, to use the recreation rooms at night for meetings, dances, and other suitable entertainments.

The toilets and locker rooms are placed at the extreme points of the main wing to insure as much privacy as possible, and to permit the female help to enter and leave the building without mingling with the male help. The plumbing fixtures throughout are of the highest type, with such additional features as lipped closets, foot operated faucets on lavatories, and shower rooms for men and women. All woodwork in the lavatories is painted white to carry through the entire building the keynote of cleanliness.

The heating and ventilating system is extensive, and so designed as to bring fresh air into the building at all times through direct and indirect systems, maintaining a uniform temperature of 70 degrees, and furnishing 20 cubic feet of air per minute for every worker. The foul air is exhausted through four large ventilating shafts having rotary ventilators mounted on the top of each shaft, so that there is a complete change of air every fifteen minutes.

A vacuum cleaning plant with numerous outlets on the various floors enables the sweepers to collect the trimmings and sweep them into two metal chutes which lead to a large receptacle in the boiler room, where they are assorted and let into a crematory.

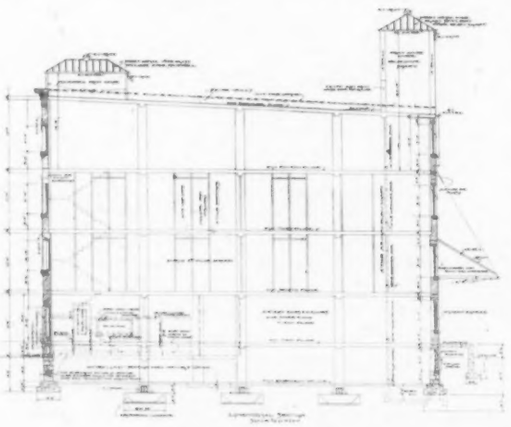
The architectural aspect of the exterior indicates in a manner as completely as possible in a mercantile structure the pleasant working conditions within. The slight expense involved has been well invested, since there is a recognized value of beauty in two direct results: first, in promoting the efficiency of the workers through their pride and feelings of well being; secondly, in advertising value to the employers.



Wenter & Drechsler Storage Warehouse, Oak Park, Ill.
George S. Kingsley, Architect

THE WENTER & DRECHSLER FIREPROOF STORAGE WAREHOUSE.

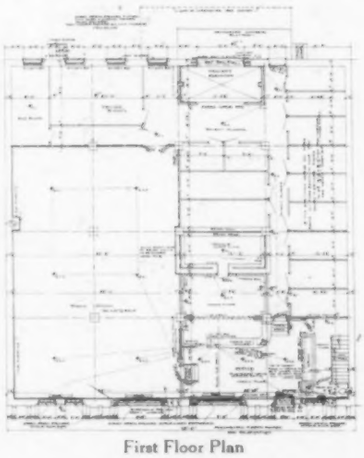
The solution of the storage warehouse problem differs in some respects from that of manufacturing plants. Perhaps the most important consideration in determining its type of construction is the matter of insurance rates. While factories can be economically built with floors of heavy timber frame and planking, following the method commonly known as mill construction, and obtain rates of insurance consistent with the profits of the enterprise, the competition in the storage business is so great that a low rate of insurance is an important factor in procuring business.



Longitudinal Section

Hence the only economical warehouse is the one that is as nearly fireproof as possible. This demands that the floors be fireproof as well as the walls and roof. Such a requirement makes it necessary to adopt a good form of construction, which in the case of the storage warehouse considered in this article consists of steel columns built of plates and angles and standard steel beams, fireproofed with hollow tile.

The insurance rate for this type of building without a sprinkler system is about 90 cents per year for each hundred dollars of insurance, as compared with a framed building requiring as an average a rate of $1.50. With a sprinkler system installed the rate of 90 cents may be reduced about 60 per cent. The sprinkler equipment to install will cost from 5 to 15 cents per square foot of floor area, depending upon individual conditions. This would naturally add to the cost of the building, but it can usually be taken up in the first few years by the resulting lower insurance rates.



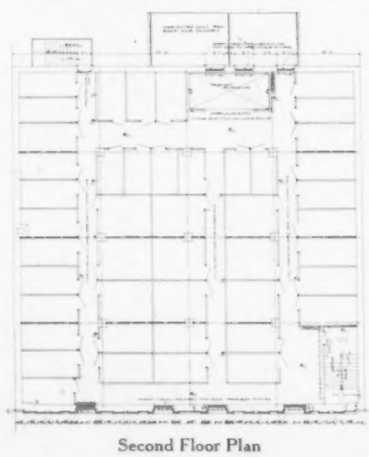
First Floor Plan

In another respect unlike the factory building, the exterior walls of the storage warehouse are practically solid, having a very small window area, which makes the selection of their material an important feature. Although there is a wide range of choice, brick is undoubtedly the most satisfactory. Where the warehouse is not over four stories high, the walls may be built solidly of common brick, with a good quality of facing brick for the outer surface laid up with some effort at architectural decoration, for a square foot price ranging from 40 to 60 cents, depending upon the grade of brick used and the architectural design. In higher buildings brick can be equally well used for the curtain walls, which are built in between the steel columns which form the real structure.

The total cost of this warehouse was a trifle under $40,000, or, figured at the cubic contents rate, about 13½ cents per cubic foot. It contains four stories and basement, the first floor being devoted to offices, toilet room, heated piano room, trunk rooms, and a few store rooms. The balance of the floor space, except that in the basement, is divided into small rooms for the storage of furniture.

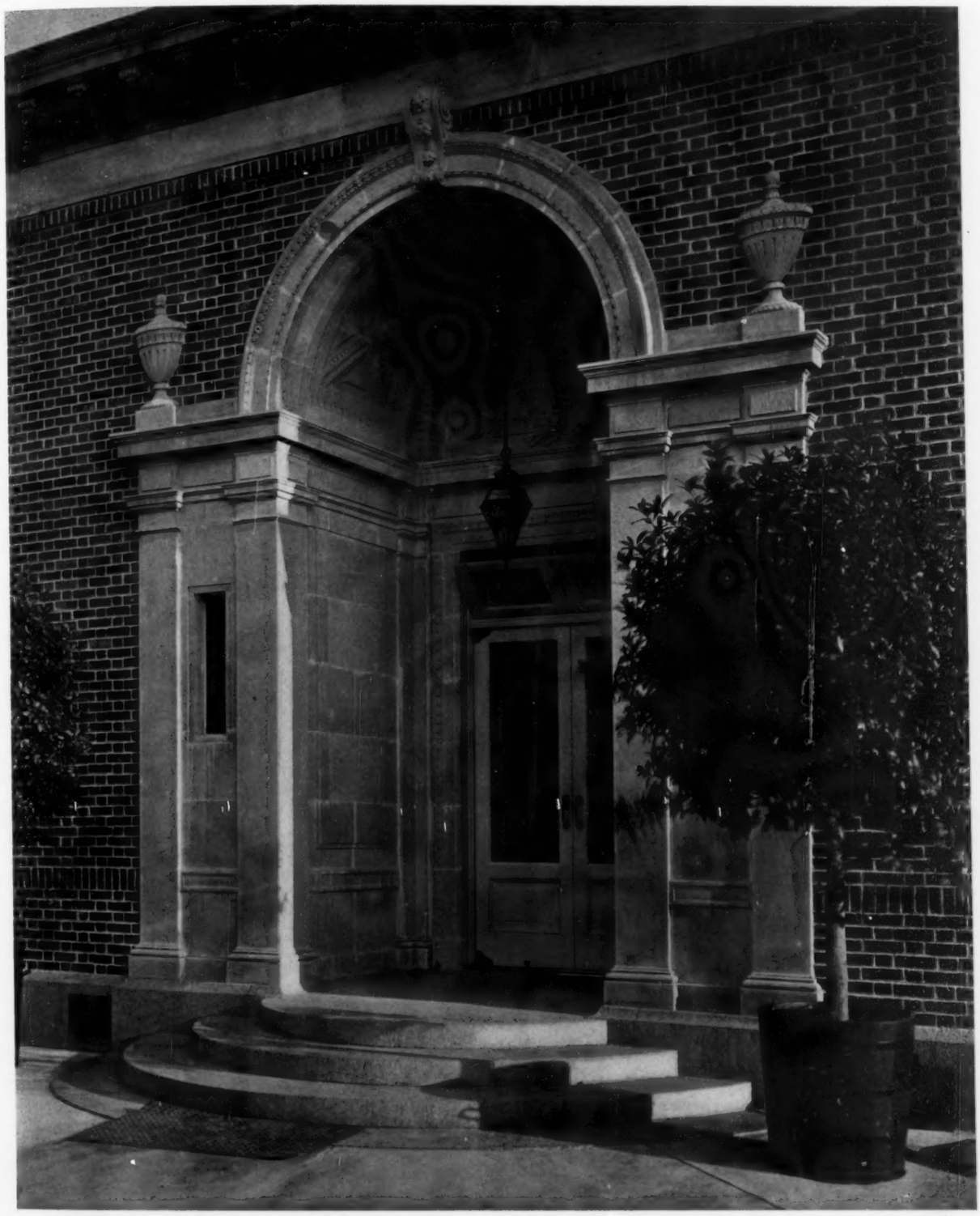
The floors are of reinforced hollow tile finished with a top coat of cement, except the floors of the office portion which are covered with red quarry tiles. The interior walls of this portion are lined with pressed brick to two-thirds their height, above which is hard plaster. The counter is also constructed of the same pressed brick with a marble top, which with attractive office furnishings and electric fixtures, combined with the design of the exterior, make the appearance of the building an advertising feature of real value to the owners.

The business carried on within the building is materially aided by the convenient locations of the large freight elevator and the unloading platform outside, which is on the same level as the first floor and amply protected in bad weather by a large marquise.



Second Floor Plan

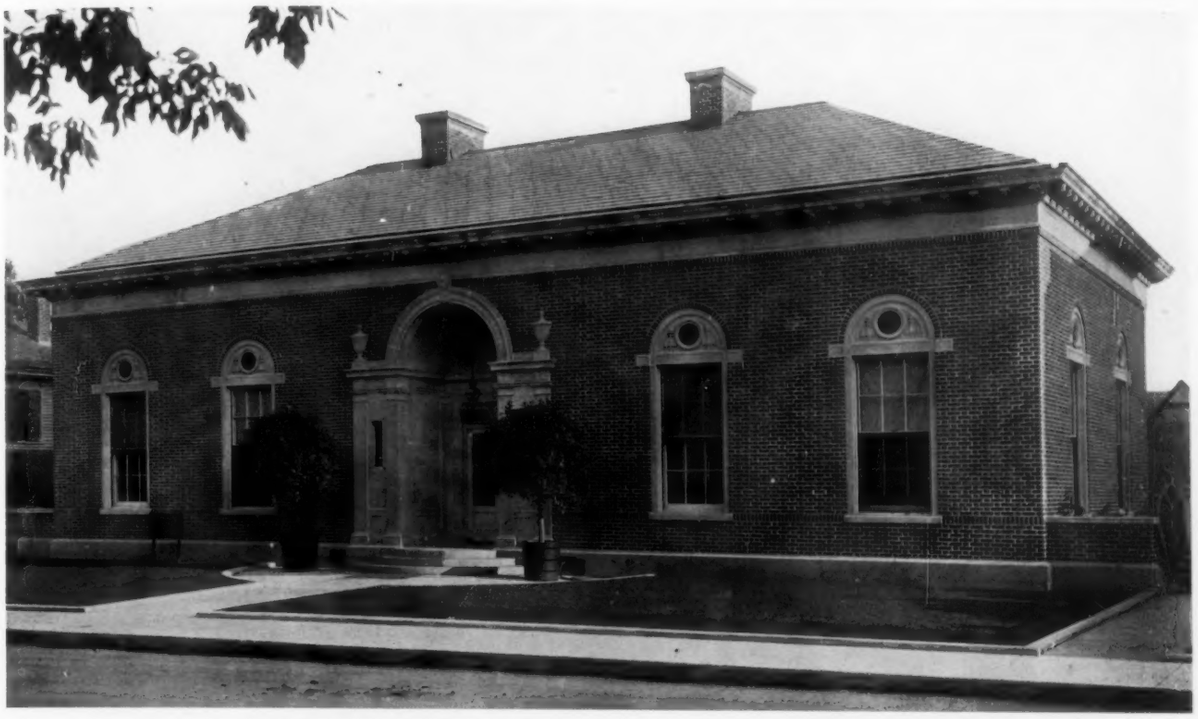
These two structures in a field that has been more or less denied to the architect, show however what has been done. It is true that design of this character requires less knowledge of æsthetics and a broader one of engineering than that occurring in the average architect's practice, but even so æsthetics are not the least important consideration; they aid the moral caliber and general welfare of our citizens, as well as the physical appearance of our cities, and we should do everything to hasten the day when manufacturing and other purely commercial buildings will be given sufficient attention to make them take a place among the distinctive types of buildings which are being created in America to-day.

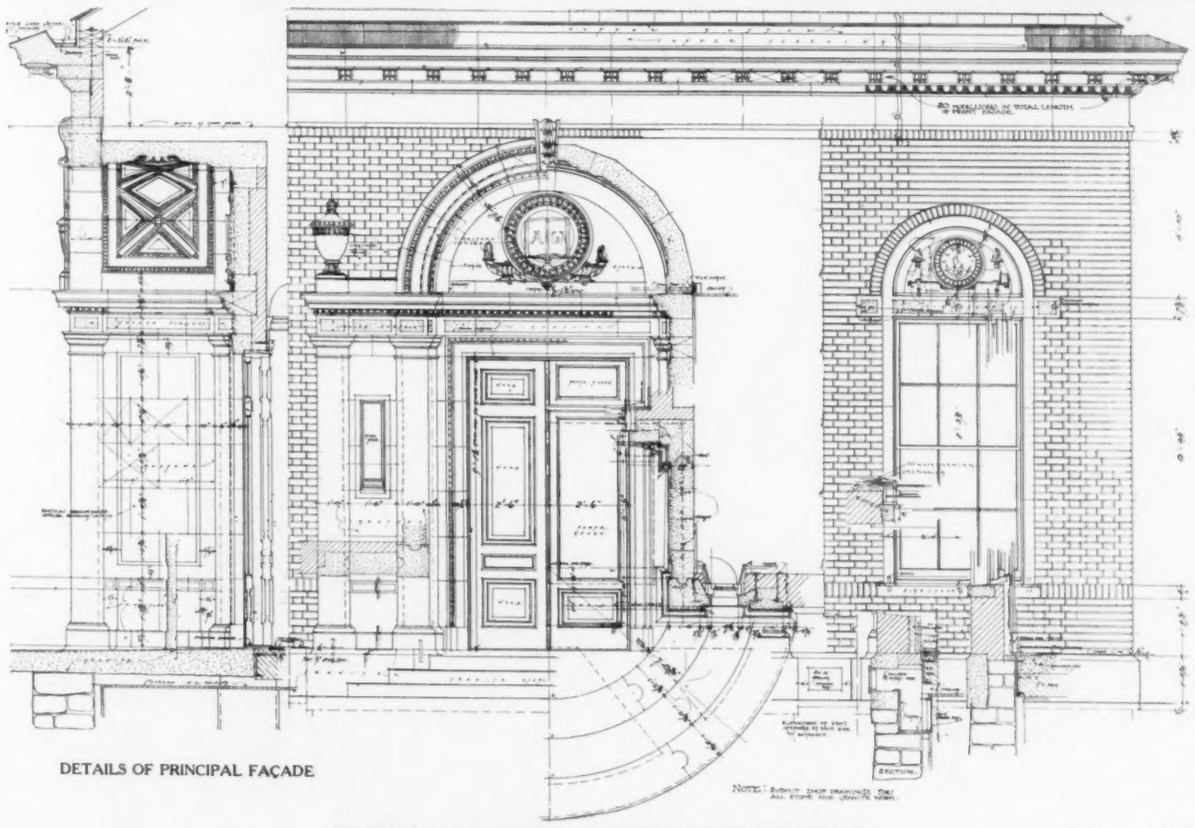


DETAIL OF ENTRANCE

MORRIS K. JESUP MEMORIAL LIBRARY, BAR HARBOR, ME.

DELANO & ALDRICH, ARCHITECTS





DETAILS OF PRINCIPAL FAÇADE

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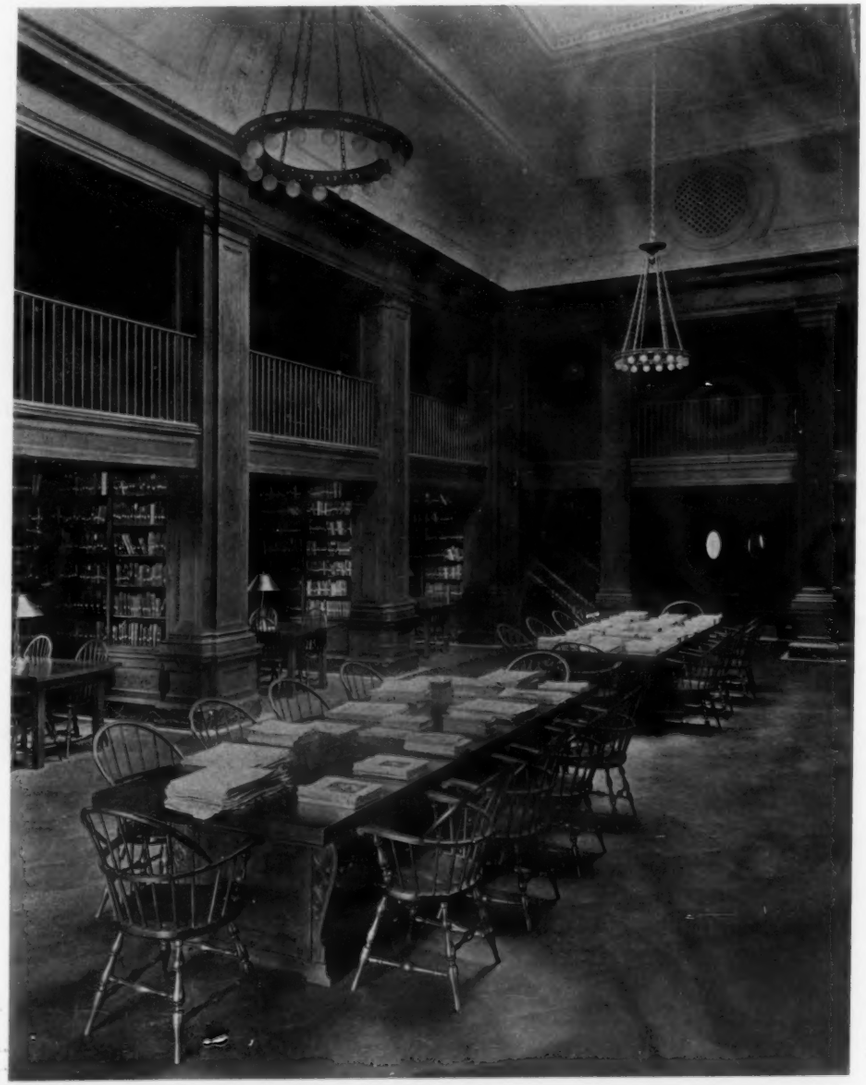
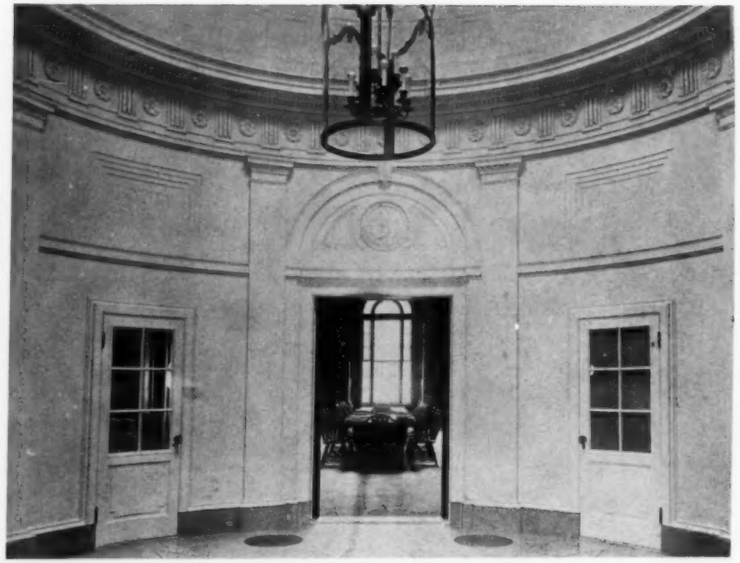
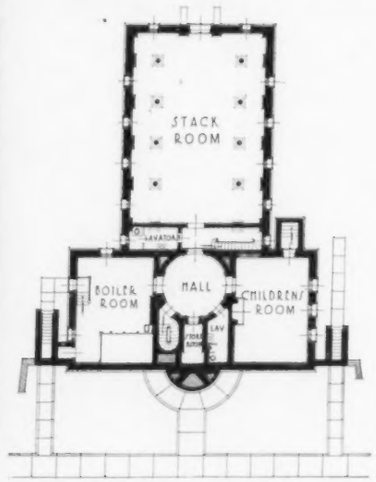
DELANO & ALDRICH, ARCHITECTS



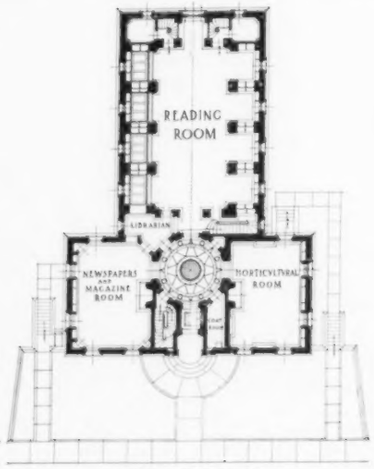
READING ROOM



ENTRANCE LOBBY



BASEMENT FLOOR PLAN

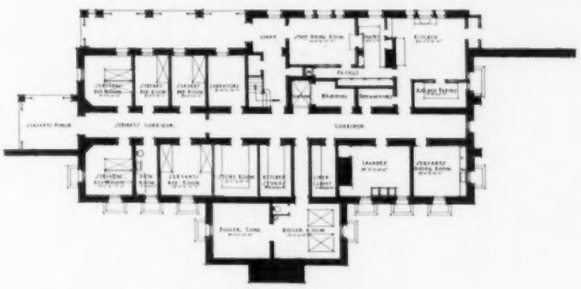


FIRST FLOOR PLAN

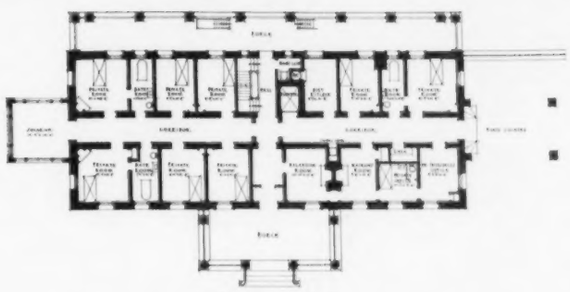
MORRIS K. JESUP MEMORIAL LIBRARY, BAR HARBOR, ME.

DELANO & ALDRICH, ARCHITECTS

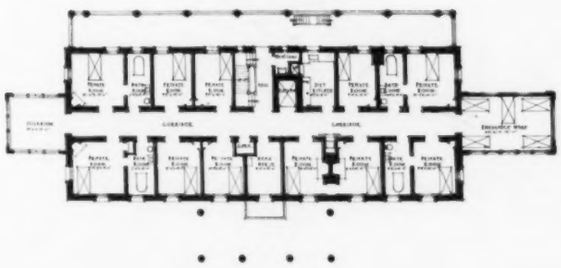
ENTRANCE FRONT



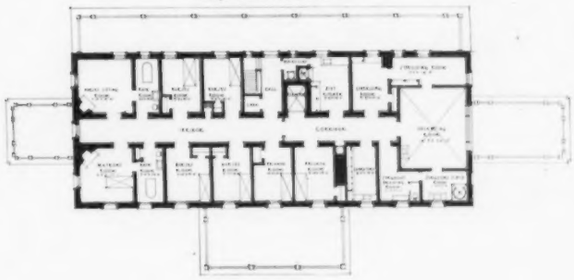
BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



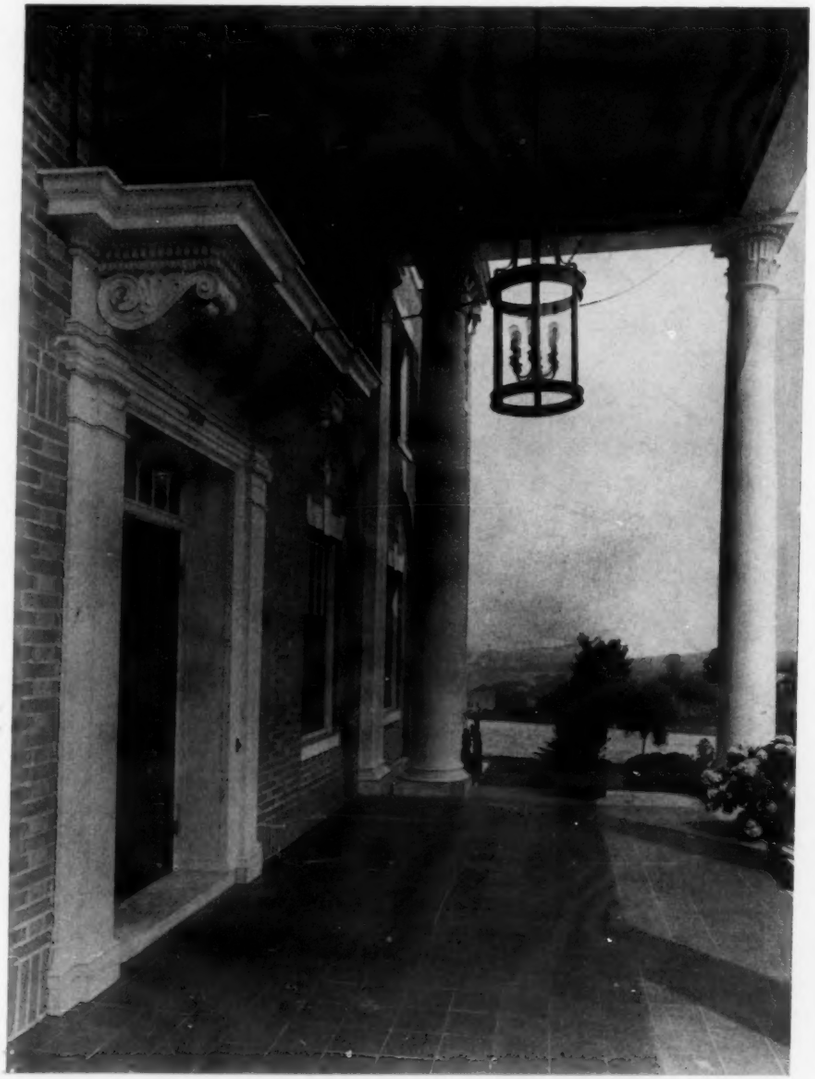
SECOND FLOOR PLAN



THIRD FLOOR PLAN

THE HIGHLAND PRIVATE HOSPITAL, FALL RIVER, MASS.

PARKER MORSE HOOPER, ARCHITECT



DETAIL OF ENTRANCE AND FRONT PORTICO

DETAIL OF HALL, LOOKING TOWARDS REAR PORCH

THE HIGHLAND PRIVATE HOSPITAL, FALL RIVER, MASS.

PARKER MORSE HOOPER, ARCHITECT

DETAIL OF ENTRANCE

CITY HALL, BURLINGAME, CALIFORNIA

CHARLES PETER WEEKS, ARCHITECT

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CITY HALL, BURLINGAME, CALIFORNIA

CHARLES PETER WEEKS, ARCHITECT

CLUB HOUSE FOR THE DELTA UPSILON, CAMBRIDGE, MASS.

R. CLIPSTON STURGIS, ARCHITECT

ENTRANCE FRONT

GARDEN FRONT

HOUSE OF N. P. HALLOWELL, ESQ., READVILLE, MASS.

PARKER, THOMAS & RICE, ARCHITECTS

DINING ROOM

HALL AND STAIRCASE

HOUSE OF N. P. HALLOWELL, ESQ., READVILLE, MASS.

PARKER, THOMAS & RICE, ARCHITECTS

HOUSE AT PASADENA, CALIFORNIA

ROBERT D. FARQUHAR, ARCHITECT

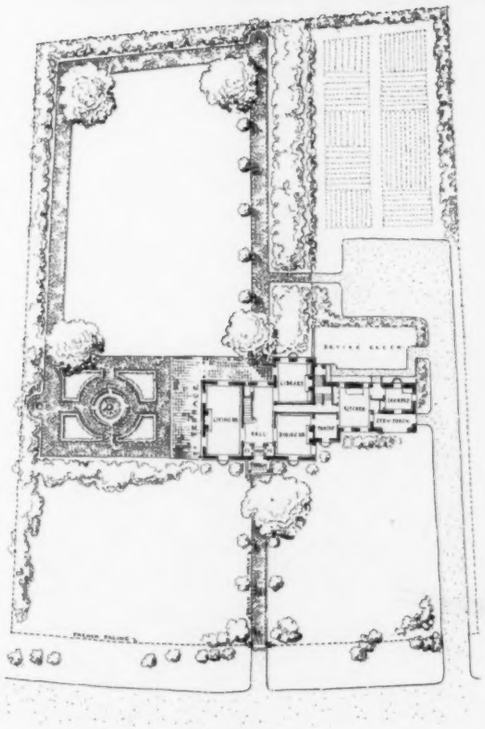
DETAIL OF FRONT ELEVATION

VIEW FROM STREET

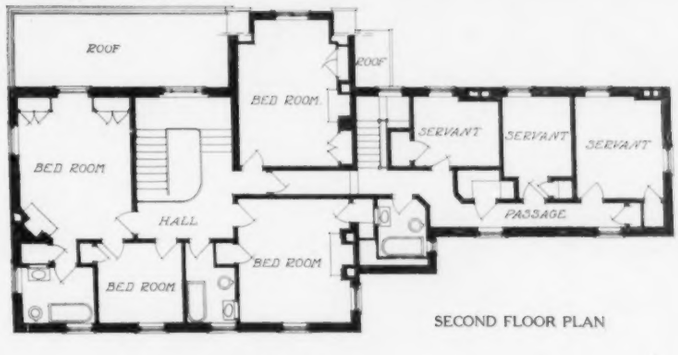
HOUSE OF MISS E. WATSON, GEDNEY FARMS, WHITE PLAINS, N. Y.

DELANO & ALDRICH, ARCHITECTS

VIEW FROM GARDEN



PLOT PLAN

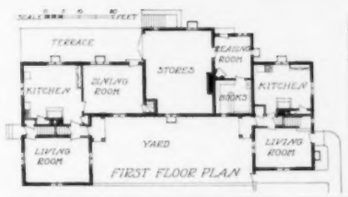


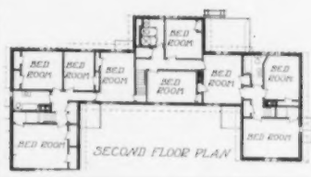
SECOND FLOOR PLAN

FIRST FLOOR PLAN

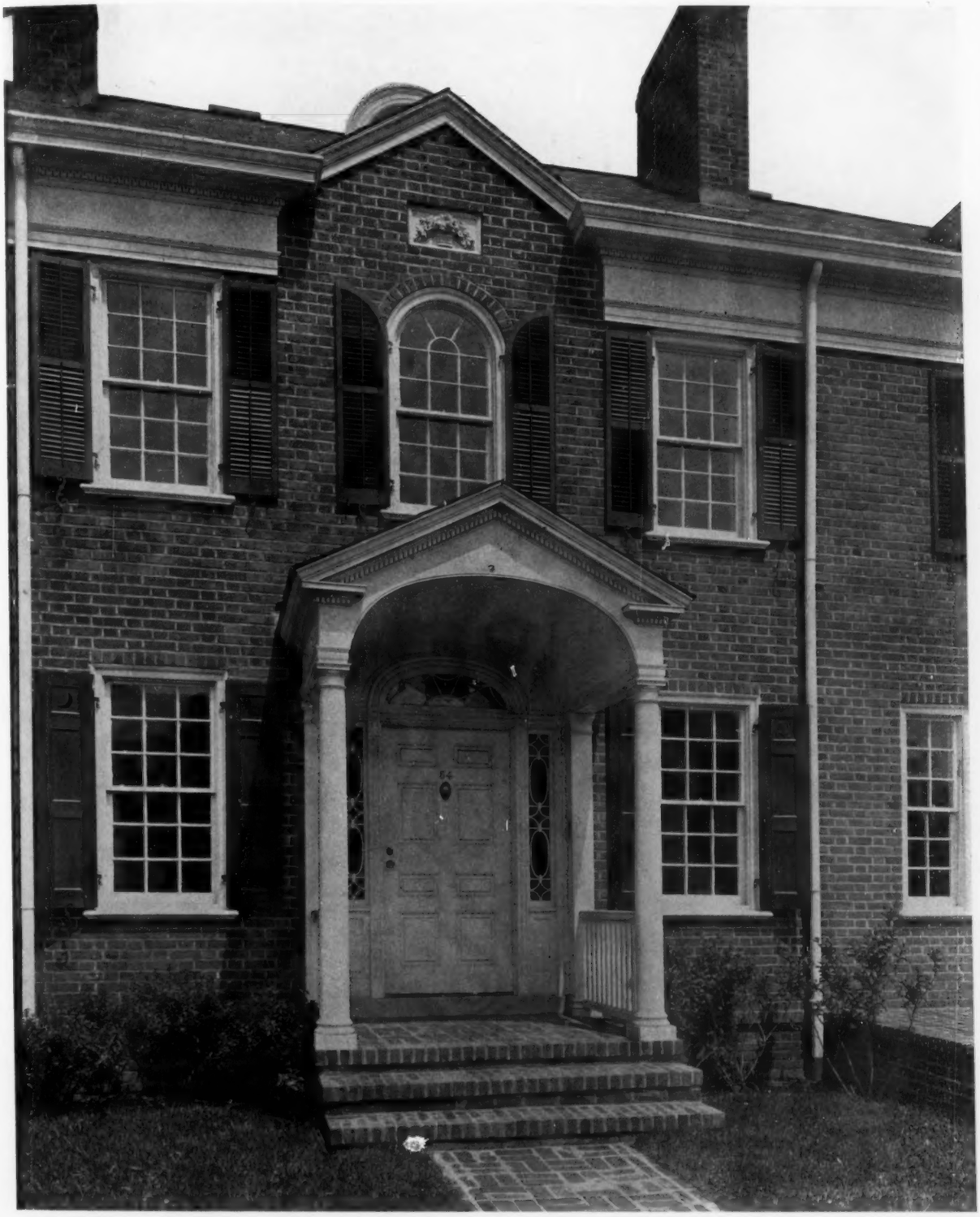
HOUSE OF MISS E. WATSON, GEDNEY FARMS, WHITE PLAINS, N. Y.

DELANO & ALDRICH, ARCHITECTS





TENANTS' COTTAGES, HENRY FRAZER HARRIS ESTATE, CHESTNUT HILL, PA.
STEWARDSON & PAGE, ARCHITECTS



DETAIL OF ONE ELEMENT OF FAÇADE

GROUP OF HOUSES AT JAMAICA, LONG ISLAND, N. Y.

ELECTUS D. LITCHFIELD, ARCHITECT

GROUP OF HOUSES AT JAMAICA, LONG ISLAND, N. Y.
ELECTUS D. LITCHFIELD, ARCHITECT

UofM

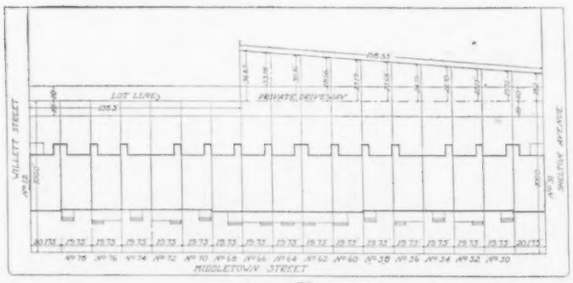
Architectural Design as an Aid to Real Estate Promotion.

PRINCIPLES OF GROUP PLANNING APPLIED TO SMALL SUBURBAN HOUSES BY ELECTUS D. LITCHFIELD, ARCHITECT.

By GARRETT H. IRVING.

THE influence which real estate developments are exerting upon the architectural character of our suburbs was pointed out in a recent issue of THE BRICKBUILDER and illustrated by selected examples of individual houses erected at Roland Park, Baltimore, Md. It was shown that very high standards were reached and adhered to by the company responsible for those houses.

At Jamaica, L. I. (now a part of Greater New York), we find another very interesting undertaking which involves the development of a section of about nine or ten city blocks. Four groups of small houses have been built, in which the results have justified the contention of many architects that real estate promoters can economically use an architect's service, and that the profits which will accrue from their investment will be the greater because of such services. In this instance the promoters realized this condition, and working in close harmony with their architect they have developed their property so that the appeal of the houses is to people of taste and refinement who will, in the course of events, be the greatest asset to their future operations in the neighborhood.



Group Plan

Detail of End House

Mr. Electus D. Litchfield has designed all of the houses of the four groups in a pleasing architectural style based on various Colonial precedents, and herewith is presented the latest addition to the group in a block of seventeen houses.

The architect's problem was to produce at a reasonable cost, completely finished, one-family dwellings, equipped with all the comforts and conveniences of the modern apartment house, such as steam heat, tile bath rooms, modern plumbing, electric light, gas ranges, etc.

The value of the land is such that in order that the house and lot may be sold at a price which will appeal to persons in moderate circumstances, the

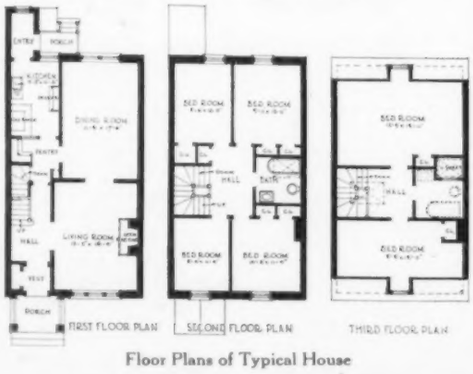
amount of land to be sold with each house must be as small as possible. On the other hand, it was desired to maintain, as far as possible, the suburban character of the neighborhood. For this reason it was planned to build only a certain number of individual houses, free standing upon moderate sized plots, and to have the majority of the houses semi-detached or in groups of four or five, and in some cases in very extensive groupings, such as those shown in the present illustrations.

This group of seventeen houses under one roof would seem justified by the open treatment of the opposite side of the block, where in the center four houses are grouped under one roof with an open space on either side between them and a group at each end of five houses. All of these groups set some distance back from the building line, and have yards and an alleyway extending through the length of the block in the rear for the use of tradesmen.

The plan for the houses is compact and of sound architectural merit. The architect has considered the possibility of the owners not employing any servant and has so arranged the various functions that household work can be accomplished with minimum effort. The houses are provided with one stairway only, and the space on the second floor has been used to great advantage by the proper position of the stairs.

The houses have been built to sell for prices ranging from $7,000 to $8,500, including the land—a condition which necessitated very careful selection of materials and economy as well as simplification in design. They are constructed entirely of brick with slate roofs. All exterior and interior woodwork was specially designed, and while the interior finish is extremely simple in its character, it displays the quiet good taste which appeals to people of refinement. The flooring throughout the first floors of all the houses is ⅞-inch oak with hard pine in the other portions.

Detail of One Element of Group



Floor Plans of Typical House

Typical Entrance Doorways

Much has been accomplished by the architect in the choice and handling of simple building materials. The whole work has been interestingly studied, and with the simple elements of good mass, good fenestration, and sparing use of strikingly good detail around the doorways, a group of houses which are at once attractive and marketable has been produced. It would seem to prove to any observing real estate operator that it is not necessary to use quantities of ornament or to spend large amounts of money in order to obtain the attention of a public that with each successive year is becoming more and more discriminating. This particular instance is very gratifying to every one interested in the architectural development of our suburbs in that a real estate company has had the foresight to entrust the design of what, in a sense may be called small work, to a competent architect.

The group of houses at Jamaica, L. I., have had the architect's careful thought, and the result is a collection of very livable dwellings which are an asset to the community and a source of pride to their owners.

The planning of small houses is a factor in our development that has not received sufficient attention, and while this instance obviously does not solve the workingman's problem, it at any rate points to a method deserving further study.

The Monumental Treatment of the Fireplace.

ILLUSTRATING THE WORK OF MESSRS. McKIM, MEAD & WHITE, CARRÈRE & HASTINGS, AND JANSSEN & ABBOTT.

By DAVID E. FULTON.

THE fireplace has been the center of associations in the dwellings of civilized mankind from the earliest Saxon times. It has come down through the ages as the one unchanging and common heritage of all home-loving and peaceful peoples as the symbol of brotherly love and hospitality. In the earliest periods, when men were beginning to form their crude ideals of beauty, the fireside was the first part of the dwelling that received the attention of the craftsman.

In England, after the invasion of the Normans, the first semblance of our modern fireplaces took definite form. Projecting hoods, sloping back to the timbers of the roof, were built of stone over the hollowed space in the wall, in which the fire burned, to prevent the smoke from pouring into the room as it previously had done, to finally escape through a hole left at the apex of the roof. Some early examples of these stone hoods, which still exist, show the simple carving of the stone worker and the rough supporting corbels which furnished the inspiration for many great mantelpieces of later days, in which the forms are identical.

The decorative treatment of the fireplace grew with man's knowledge of the building arts, and in the ancient buildings preserved to our day the chimneypieces represent every phase of architecture, and as a group of single features they form a remarkably complete record of the development and decline of the various historic styles.

The age of the Renaissance of arts and letters, however, is the great period in the history of architecture in which the decorative treatment of interiors rose to the highest plane. The movement was widespread, and this period produced apartments in Italy, France, and England which have yet to be equaled in beauty or splendor. Under the direction of the great Renaissance architects of these countries the fireplace assumed its monumental proportions and treatment. The choicest marbles, wood carving, painting, and sculpture were produced and gathered together to adorn them.

The eighteenth century in England produced a group of architects, following Inigo Jones and Sir Christopher Wren, who have left a heritage in beautiful interiors the value of which is impossible to overestimate. These men include such artists as James Gibbs, Sir William Chambers, and the celebrated brothers, Robert and James Adam. These names are closely identified with the design of mantelpieces, and the great distinction, dignity, and classical feeling that they invested in their work remain to this day unrivaled and a source of inspiration of the greatest value.

It is only natural that in a large, architecturally treated interior there should be some point of focal interest upon which the richest decoration is centered, and the fireplace has always furnished a means of the most satisfying order. In our interior architecture of to-day we have not been able to devise a better feature, notwithstanding the greater complexity of modern life, with many times the interests of earlier times. Likewise, we have but few or no conceptions of better forms than those developed in the periods of the Renaissance in Italy, France, and England, and it is to them that we naturally turn for inspiration in our own work.

The several mantelpieces illustrated on these pages show examples of the best that is being designed to-day, following in a general way the work of these schools. In this new work there is easily discernible a greater attention to the character of the detail than is evident in its prototypes. Especially true is this of the work based on the Georgian precedent; for there is almost a universal feeling among the admirers of this school that, while the mass of the old compositions was admirable and the inherent dignity and bold spirit of execution was everything to be desired, there was, still, often an element of grace and refinement lacking in their detail which, in our adaptations, we earnestly strive to impart.

Chimneypiece in the Drawing Room of the President's House, Columbia University, New York
McKim, Mead & White, Architects

The chimneypiece illustrated on this page is an excellent one of severe classic dignity that is particularly well suited to the purposes of a drawing room. The fireplace opening is framed with an extremely modest treatment of small pilasters and cornice in dark marble. The splayed sides and back of the opening are

Mantelpiece in the Trustees' Room of the New York Public Library, New York
Carrère & Hastings, Architects

covered with ornamental cast iron to protect the walls from disintegration from the heat of the fire. The large pilasters of the Ionic order are placed effectively against broad, flat surfaces of dark wood, which serve to give a simple setting to the large, gold framed mirror and to bring the chimneypiece into intimate relation with the room architecture.

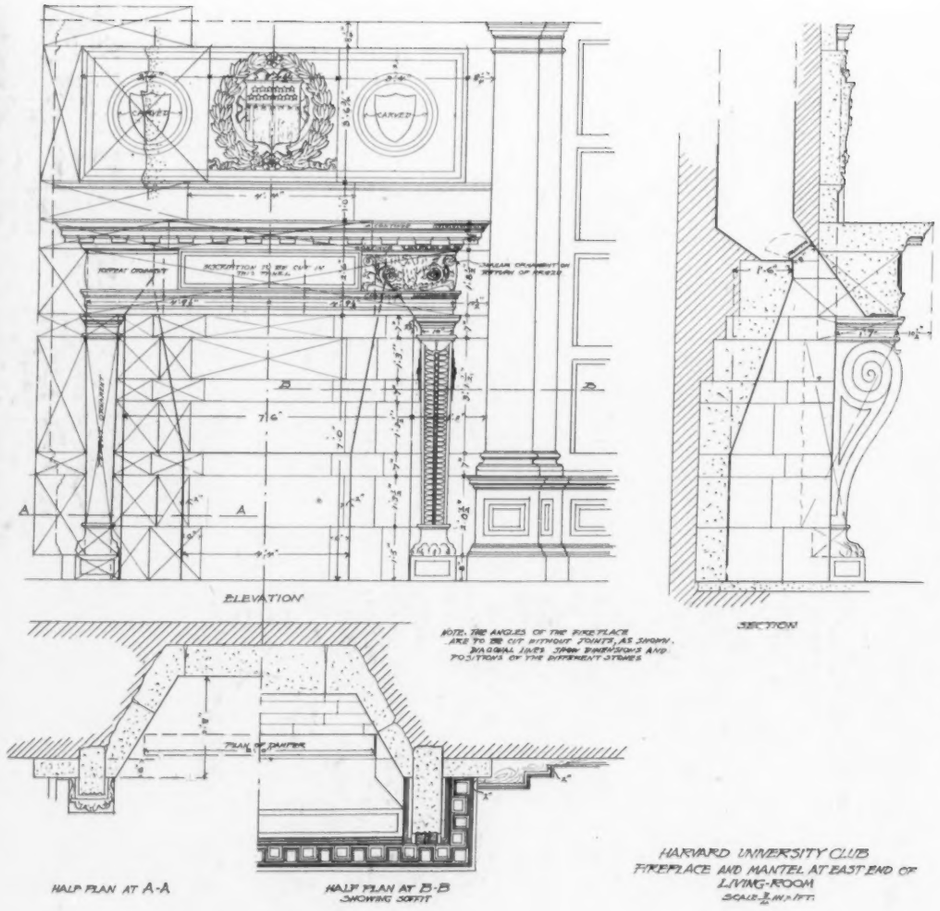
Architects of late have been inclined to strongly discourage the use of mirrors, and it is only with the revived popularity of the work of the brothers Adam that mirrors have again been introduced to any extent in well designed interiors. We all are familiar with the fantastic and altogether delightful forms which were imparted to the immense "chimney glasses," as they were known, by the brothers Adam; but there must appear to the artist who appreciates the subtle value of proportion and simple form a satisfaction in this use of silvered glass that does not obtain in the more "finicky" delicacy and refinement of the work of the Adam period.

The mantelpiece in the New York Public Library is an excellent example of marble carving from a design based on the modern French school of architecture. This mantelpiece possesses real monumental character, since it is by the very nature of its design a monument. It is a complete unit in itself entirely independent of the room in which it is placed; it furthermore has the large scaled appearance of a monumental work and gives the effect of durability and permanency from the evidences of the skill and labor that we know were necessary to create it.

The mantelpiece in the Villard house in New York City, while not a recent piece of work, equals in general excellence anything of this order since produced in this country. It is a typical example of the sumptuous effects which the late Stanford White delighted to produce with colored marbles and rich decorations, inspired by the glory of the Italian Renaissance. The carving of the figures on the plain marble ground over the mantel and wall fountains displays the delicate low relief of which he was particularly fond — a famous example of which is to be seen in the Farragut Monument in Madison Square, New York. This decoration in the Villard house is not confined to the mantelpiece alone, but is spread over the entire room, — the ceiling, the walls, the floor receiving equal attention; but the whole effect is tempered with the great genius which he displayed in the artistic and discriminating assembling of the richest decorative adjuncts, so that the room is one harmonious whole.

There is, perhaps, in all the work which the architect is called upon to do, no single feature in which he can more easily unite architecture with the accessory arts of painting and sculpture as in the decoration of large chimneypieces. They furthermore present a delightful field for the exploitation of those personal qualities which every true artist has the desire to invest in all of his work; and with the wonderful examples which have been preserved to us from antiquity, and the very good work which architects of our own day are creating, there should be ample sources of inspiration to make creative work a great pleasure and of more frequent occurrence for even those who are not gifted with the amplest opportunities or wonderfully creative imaginations.

Mantelpiece in the Villard House, New York
McKim, Mead & White, Architects

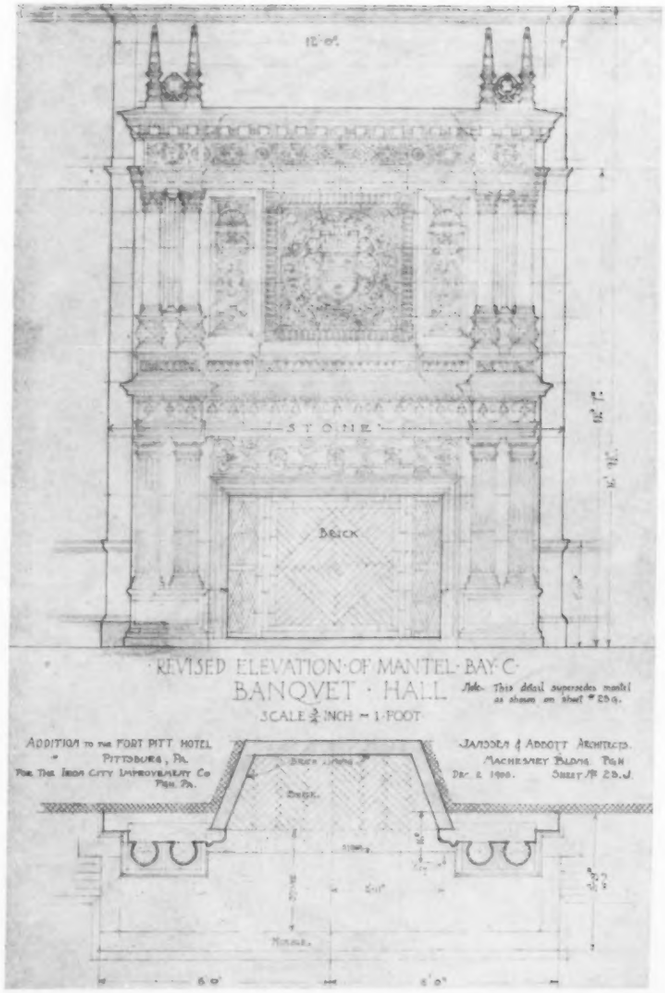


Scale of Reproduction, 1 inch = 4 feet

THIS is one of two similar mantelpieces located at the ends of a large lounging hall in Harvard Union. The walls are paneled for two-thirds of their height in dark oak, against which the mantelpieces and doorways which are of stone appear to excellent advantage. The upper third of the walls (not shown in this illustration) is constructed of the same stone specially selected for color and carefully jointed. The mantelpiece shown here is under the musician's balcony at one end of the room. It follows Italian precedent in having a very large fire opening, the height from the hearth to the under side of the entablature being seven feet. The carving is of a simple order and follows the Italian Renaissance in its detail.

MANTELPIECE IN THE LOUNGING ROOM, HARVARD UNION, CAMBRIDGE, MASS.

McKIM, MEAD & WHITE, ARCHITECTS



Scale of reproduction, 1 inch = 4 feet

THIS mantelpiece is the dominating feature of a large and richly decorated Elizabethan room. It is constructed of stone, and in design follows the English mantels of the period in both proportion and detail. Wood is usually associated with this period as the constructive medium, but stone was as frequently used in the old work, the only difference in the forms being in the scale of the ornament. The use of the seal in the center panel is an interesting and suggestive application of heraldry to architectural design.

MANTELPIECE IN THE BANQUET HALL OR ENGLISH ROOM, FORT PITT HOTEL, PITTSBURGH, PA.

JANSSEN & ABBOTT, ARCHITECTS

Water Color Drawing of "The Mole"— A French Seaside Pavilion — M. Janin, Delineator

Monographs on Architectural Renderers.

BEING A SERIES OF ARTICLES ON THE ARCHITECTURAL RENDERERS OF TO-DAY, ACCOMPANIED BY CHARACTERISTIC EXAMPLES OF THEIR WORK.

XI. COMPARISON OF FRENCH, ENGLISH, AND GERMAN WORK.

IN concluding this series of articles on rendering and renderers, it has seemed almost necessary to say something, at least, about the French, English, and Germans, whose work is so interesting and so different from ours; for some it is so powerful that it has had a very great influence on the work of our men.

It is beyond question true that the men whose work has most directly influenced ours have all been French; with so great a proportion of our architects trained in Paris this must inevitably have been the case, and yet in color rendering, at least, we have apparently broken loose from the traditional ways of rendering of the French school, and the work of the men whom we have been discussing in this series of articles is far less conventional, far freer, and more liberal than that of the French renderers. Of course in what may be called strictly architectural rendering, that is, drawings of elevation or of plan, in which the shadows are cast at the angle of the diagonal of the cube, we are still following French traditions, and very properly, since neither the English nor the German renderings, either of plan or of elevation, show the technical expertness of the French in the actual laying on of washes, nor the ability to conceive the architectural drawing as a composition or pattern, as well as an exposition of facts. The great strength of the French renderers has always been in this strictly architectural work; their renderings of plans almost invariably are agreeable to look at; they form interesting patterns of lights and darks, and yet the making of this pattern is never permitted to obscure the purpose of the plan, but is composed of the various elements which form the plan, so that there is about their renderings of plans a certain modeling which throws into relief the important portions of the building, indicates the several planes (if the building is composed of more than one), and in general gives clarity to the drawing. French drawings read easily, because the French know how to indicate circulation and important elements, attracting the attention to them without suppressing elements of lesser importance which are still essential to the plan. When, however, we look at the French show drawings of exteriors, we find that much the same formula that they have used for plan has been followed — a result which is to our minds, at least, not quite so happy. Real perspective drawings rendered in colors as we know them are not the usual methods of presenting schemes for building in France; they prefer to use a conventionalized system in which the building is shown in direct elevation, while the entourage is in perspective. It is the same system which Maxfield Parrish uses in much of his work, and which the Japanese have used in much of theirs, although, of course, the terms of expression used by the French architectural draftsmen are very different from either the Japanese or those used by Parrish.

Sketch of a Monumental Showcase
M. Janin, Delineator

The result is that a certain amount of familiarity with architectural forms is necessary to understand exactly what they are driving at, and a certain amount of acquaintance with their method is necessary before they can be fully understood or appreciated. The same thing is true of Japanese prints: on first sight they appear

confused and distorted; we have to learn the cipher before we can understand the drawing; but the best of the French renderings, even if they do not instantly appeal to us as correct naturalistic representations of facts as they are to be, do appeal through the loveliness of their color and agreeable composition.

The Frenchman, as a rule, does not devote any great amount of time to his renderings of exteriors; he prefers to study his plan and to develop the rendering of that, knowing that in France, at least, much more stress is laid upon excellence of plan than upon excellence of elevation, assuming it to be an axiom that any good plan is capable of a good elevation—a thing which is, perhaps, not true, as the present decadence of French architecture would indicate.

Pen and Ink Drawing of an English Country House
Andrew N. Prentice, Architect and Delineator

The methods employed in French rendering, then, are those which are conducive to rapidity of execution; single washes are used as far as possible, and it is very seldom that a drawing is laboriously built up of wash after wash, and tone after tone, as is the method used by some Americans. Chinese white is very sparingly introduced; guache drawings, so frequent in our American work, are there practically never seen; the result is that the French drawings have a lightness, airiness, and freedom which is distinctive. One feels that the surroundings have been put in largely for good measure, and without much regard for reality; it is the building which is made to count, which is important, and which is worked over. In this country and in England, too, our renderings lead us to believe that it is the building *in the setting* which is important to show in perspective.

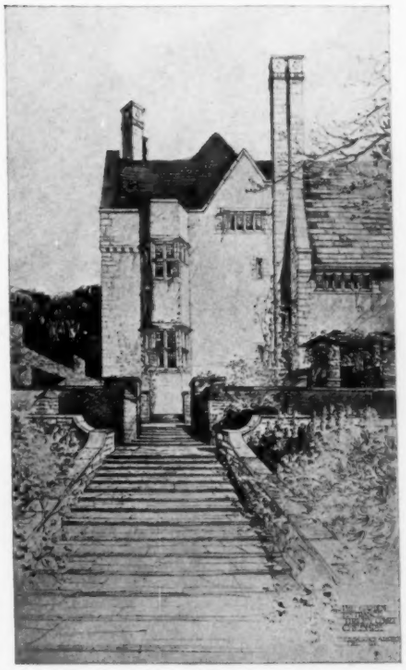
The French view point being what it is, there have naturally no men arisen to any special eminence in perspective rendering. We all know the names of a half dozen or dozen Americans who are distinguished in this line; most of us can name an equal number of Englishmen, and at least a few Germans; but there are very few of us who can name any Frenchman distinguished purely for his perspective rendering. We know the names of many men who can make exquisite renderings of elevations or of plans; but it is for these men that France is famous, and not for architectural artists. Therefore the drawings, which have been chosen to illustrate the French style, bear no especially distinguished names, although the drawings themselves are capable and even brilliant. The drawing of the little private bath establishment (by Lefort) has much the quality of an old French tapestry, and that of the "Mole" is a very spirited little seascape; the show case (by Janin) can hardly be surpassed as a sketch; but they represent very highly specialized ways of working—any ways which are unusual outside of France.

With the Englishmen we feel on more familiar grounds; their work is entirely comparable to ours, since they have looked at renderings in much the same way. Their drawings are intended to show to the non-technical client the probable appearance of the building when completed. All drawing, that is, the representation of solid objects in one plane, must be more or less conventional; but since all of us from our earliest childhood have been accustomed to this convention, we have forgotten that it is one, and we can understand drawings of architecture which are not strictly speaking architectural drawings. It is such drawings as these which they have in England principally developed, and the men who make them constitute the most interesting class of English renderers. By comparison with the work in this country, the English are more inclined to the use of black and white; at the average architectural exhibitions here probably nine-tenths of the show drawings are in color; while at the English exhibitions certainly half, and perhaps three-quarters of their renderings, are in pen or pencil.

Yet when they actually come to the use of water colors,

Water Color Drawing of a Private Bathing Establishment in France — M. Lefort, Delineator

such men as Eggers and Long are not the superiors of the best of the Englishmen; Henry Wilson, C. A. Voysey, Baillie Scott, Edgar Wood, A. N. Prentice, and others are extraordinarily facile in the use of color, and probably for sheer power and ability there is no one either in this country or in Europe that is quite Henry Wilson's equal. Jules Guerin produces the sturdy quality of his drawings by neglecting detail; Henry Wilson includes it, and achieves the same power: his drawings are never finicky in spite of their elaboration, and the solidity and strength of his design is emphasized by his extraordinarily brilliant color and the magnificence of his drawing. It is probable that his style is particularly sympathetic to the type of design he prefers; but even allowing for this, it is impossible to deny his possession of perfect mastery of his art.



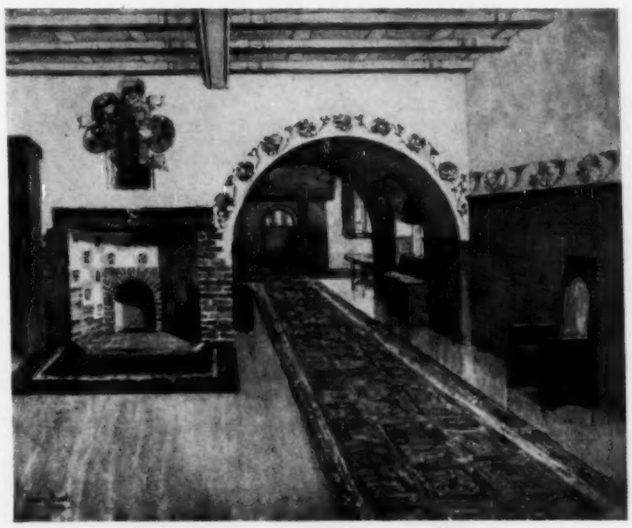
Pencil Drawing of Garden Entrance to Country House in Cheshire
C. E. Mallows, Architect and Delineator

The work of Voysey, Baillie Scott, and Edgar Wood has much resemblance; they with some of their imitators constitute a school or class of rendering which is not paralleled in this country. No black and white reproductions do their work justice, and even color reproductions fail to fully express their quality. All three men use color with the utmost facility, and their drawings of objects, which in themselves are not part of the architecture, — trees, flowers, and shrubs on the exterior, and furniture, rugs, and decorations in the interior, — are perhaps as interesting as the rendering of the architecture itself. These men think more fully of the finished scheme than we do; they depend more upon color than we do and less upon form. Their renderings, therefore, are especially interesting because they show how essential color is to the complete scheme, and their suggestions for color decoration, as in the drawing of Edgar Wood's reproduced herewith, are intensely interesting, not alone because of the forms of the ornament, but because of the exquisite color scheme employed.

It may be well here to turn aside from the general discussion of renderings and take up this individual one for a moment, since the points notable in this particular rendering are those characteristic of most color work of these men. The brickwork around the fireplace is red, the color spots on the tiles are blue, and the running ornament over the arch and above the wainscot is orange, red, and green—about the colors of a nasturtium bed; the wainscot is greenish oak; the figures over the mantel are of blue, purple, green, and red; the beamed ceiling is gray and the floor of a grayish oak; the long rug, which is an essential feature of the architectural scheme, is full of interesting color, and the wall surfaces are shown to be of pale sand finished plaster. Now these things are not suggested in this drawing, they are insisted on, and one feels that when the work is executed they should be carried out in their entirety in order to truly develop the scheme.

The English renderers are indeed so many that reference can be made to but a few: Mr. Jessop Hardwick uses an interesting combination of ink and water color, drawing his architecture in ink and tinting his plain surfaces with heavy settling washes—a method very different from Wood and Baillie Scott and others, who lose the drawing in the color.

The other usual type of English rendering has perhaps been made most familiar to us through Prentice's wonderful book on Spanish architecture, and in Prentice and Mallows the English have two of the most beautiful pencil draftsmen that have ever lived. It seems hardly possible that so many different tones can be obtained in a single drawing as we find in theirs; the suave, cool quality of surface, and the finish and precision of their work, is very different from the sketchy methods which American draftsmen employ.



Water Color Drawing of an English Country House Interior
Edgar Wood, Architect and Delineator

The work of the German and Austrian renderers is not as familiar to us as that of the English, probably because German architecture is less sympathetic to our taste, and we therefore see fewer of the German magazines. Like the English, they use water color and black and white, with equal freedom, and not infrequently their drawings are line drawings with the flat surfaces washed in.

One thing which

strikes us as interesting about their methods is that for large structures they are apt to use line drawings; while for small ones, and especially for interiors, they generally make water color studies, and we will very often find the same men equally facile in the two mediums. A certain part of the men have in rendering apparently taken their cue from the English; but some of them prefer to work in a more mechanical way, which is well illustrated by one of the extreme examples, — the living room designed and rendered by Max Benirschke of Dusseldorf, which is, of course, of extreme modern character, both in architecture and in color. A not dissimilar drawing is that of the concourse of the station at Karlsruhe, designed by Prof. Herman Billing and Wilhelm Vittali, a very simply rendered pen and ink drawing with light washes over certain parts of it.

Water Color Drawing of German Railway Station Concourse
Professor Herman Billing and Wilhelm Vittali, Architects
Professor Herman Billing, Delineator

The work of Prof. Wilhelm Kreis of Dresden is of a much more sketchy and pictorial character and has, perhaps, been influenced by the drawings of Otto Rieth, one of the most superb draftsmen who ever lived — a man of extraordinary fertility of invention and of really stupendous imagination. Of course we are all familiar with the drawings of his wonderful, gigantesque, and fantastic compositions; visualized Poe stories, which have never been equaled in conception and hardly in drawing since the time of Piranesi's engravings.

Hans Heller of Darmstadt does quiet, simple renderings suggestive of the Englishmen Voysey and Wood. This is true also of F. W. Yochen of Mainz, and the work of Professor Grenander of Berlin is evidently influenced by the English school. Prof. Fritz Schumacher of Dresden uses pen and ink in a free and interesting manner, and Richard Schmitt of Darmstadt obtains a quality in his renderings of exteriors very little different from those of Prentice's water colors.

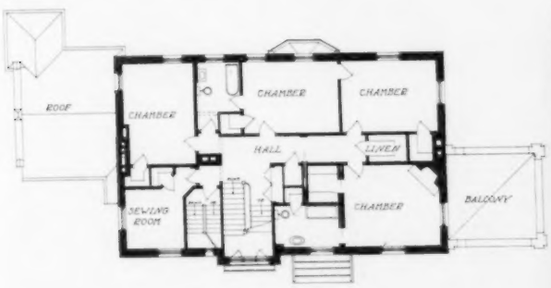
German rendering is as a whole not very unlike English, although the architecture of the subjects is so radically different that we are not apt to think of them as having much kinship; but the German renderings, which are distinctly German and uninfluenced by the work of other countries, are evidently products of the modern art movement which has apparently found its soundest foothold among artists in Germany.

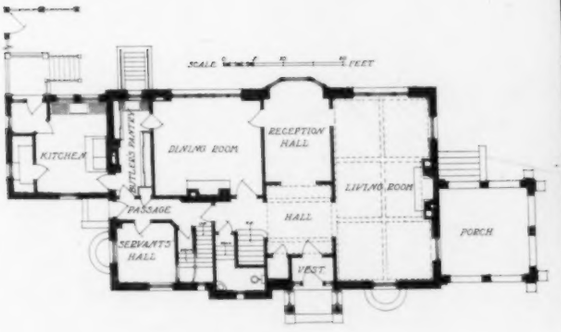
Water Color Drawing of German Residence Interior
Max Benirschke, Architect and Delineator

A wider acquaintance with the work of foreign renderers will very greatly benefit our draftsmen, since the sun has by no means risen and set exclusively over America, and we have, perhaps, in the past learnt from the French, without taking into account the equally valuable lessons which the English and Germans offer us.

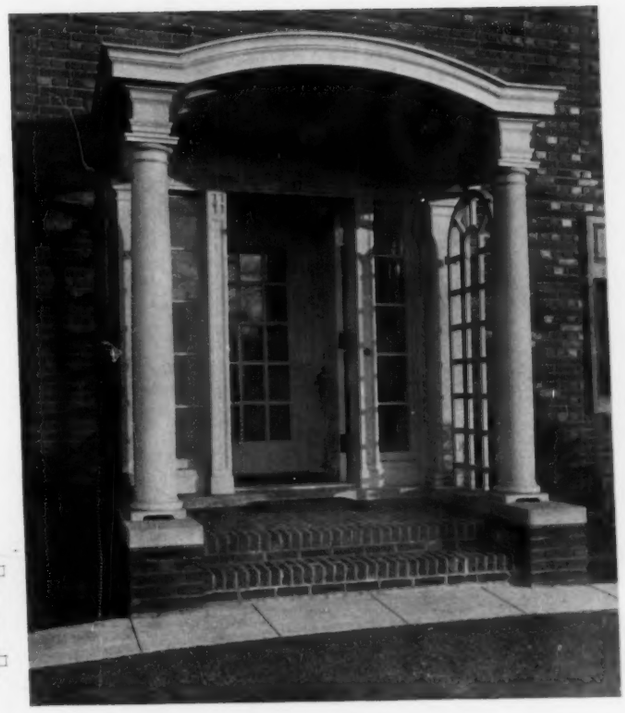
Architects, too, may profit from a study of the careful manner in which the latter artists consider their color schemes. Some of the German drawings are particularly resplendent in colors, which, although differing widely from those that our most daring architects are willing to suggest, are nevertheless very effective and artistic, and indicate in perhaps a more detailed manner, the exact color tones to be had in the finished building than do similar American ones.

Water Color Drawing of Maternity Hospital, Dresden
Karl Hirschmann, Architect — Maler Paul Ricken, Delineator





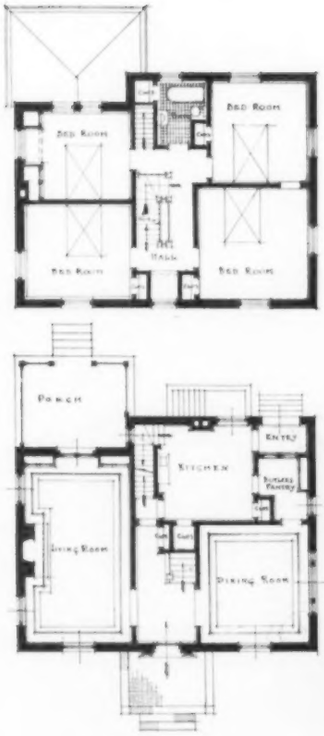
FLOOR PLANS



ENTRANCE DETAIL

HOUSE OF E. L. HARTPENCE, ESQ., NEW HAVEN, CONN.

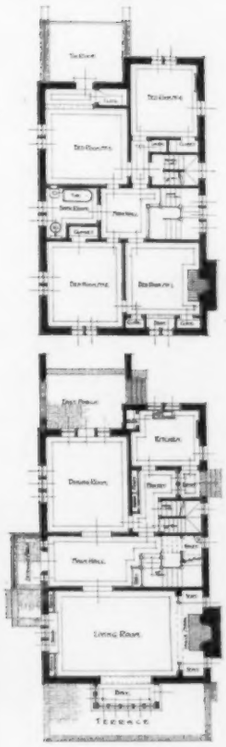
CADY & GREGORY, ARCHITECTS



FLOOR PLANS

STREET FRONT

STREET FRONT



FLOOR PLANS

TWO SMALL HOUSES IN ST. LOUIS, MO.

ROTH & STUDY, ARCHITECTS

The Heating and Ventilation of Offices and Banking Rooms.

By CHARLES L. HUBBARD.

THE modern office building usually consists of three sections: the basement, or sub-basement, containing the mechanical plant; the street floor, devoted to banking rooms, with suites of private offices above; and the remainder of the building made up of small rooms arranged in a similar manner upon each floor.

Methods of Heating. The upper section is commonly warmed by direct radiation, it not being practicable to combine heating and ventilation in buildings of this kind, owing to the large number of rooms and the necessity of individual temperature regulation in each. The banking rooms and private offices are generally provided with ventilation, and the heating is usually done by means of hot air, supplemented by direct radiators where needed. When a ventilating fan supplies more than one room, it is customary to raise the temperature of the entering air to 72 or 74 degrees at the main heater, and provide the additional heat either by direct radiators or secondary stacks placed at the bases of the various flues, thus giving to each room an independent means of temperature control. In buildings of small size, indirect gravity heaters are often used for warming the banking rooms, although not so effective as a fan system.

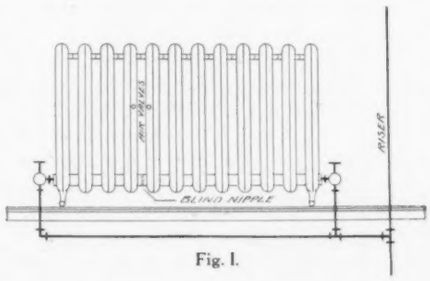


Fig. I.

Location of Radiators. In the smaller rooms of the upper section the radiators are generally placed beneath the windows for the following reasons:

First, it is the coldest part of the room, and this arrangement serves to prevent down-drafts caused by the large glass exposure and the inleakage of air around the sashes. Second, the partitions are often changed to suit tenants, and with the radiators in this location there will be no interference, whatever the arrangement of the rooms. Third, it simplifies the running of supply and return risers, making the layout practically the same on each floor. There may be instances, however, where it is desirable to keep the windows free, in which case the radiators may be set against the side walls, or partitions, without interfering with their effectiveness to any great extent.

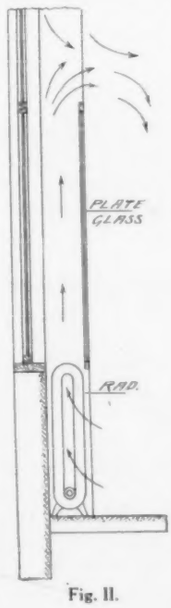


Fig. II.

In steam heated rooms having two or more windows it is best to divide the radiating surface, placing a unit beneath each window. This arrangement makes it possible to proportion the heating capacity to the outside temperature by shutting off one or more of the radiators in mild weather.

In small rooms, where a single radiator is used, the same result may be secured by dividing it into two separately valved sections and connecting with the riser as shown in Fig. I. This, in effect, gives two independent radiators having the appearance of only one. It can be used, however, only with a single-pipe connection; but as this method is widely used in low-pressure gravity heating, it may be employed in a large number of cases. Vacuum and hot water systems, requiring the two-pipe connection, have other means of regulation, so the divided radiator is not required in cases of this kind.

Entrances and corridors may be warmed either by direct or indirect radiation. A good arrangement for this purpose is to conceal the heaters by grille work and force warm air through them by connecting with the fan system. This serves to supply fresh air to the corridors and also reduces the radiating surface by increasing its efficiency. The larger part, if not all, of the corridor radiation may be placed on the first floor. These rooms have but little, if any, outside exposure, and the stairways and elevator shafts act as flues for carrying the heat to the upper stories. In special cases, where there is considerable outside glass exposure, it may be necessary to supplement this with a small amount of direct radiation suitably distributed on the various floors. But, in general, the first arrangement will provide ample heat and is more simple to install. When a fan is used in connection with this work, provision should be made for gravity rotation through the heaters at night when the fan is shut down.

Miscellaneous rooms, such as lunch rooms, barber shops, toilet rooms, basement storage rooms, etc., are usually heated by direct radiation, located according to the positions of the risers and the general arrangement of the fixtures.

Skylights may be warmed by carrying coils of pipe around the enclosed chamber between the two sashes.

Radiator Shields. Cold down-drafts in front of high windows in banking rooms and similar locations are often difficult to overcome with ordinary direct radiators. In cases of this kind good results may be obtained by the use of plate glass shields as shown in Fig. II. These form a flue which delivers a current of warm air at a sufficient height to break up or deflect the downward movement of cool air before it reaches those sitting below. Other methods of overcoming down-drafts are considered under ventilation.

Types of Radiation. The various forms of castiron sectional radiation are used almost exclusively in this class of work. Direct radiators should be of plain pattern and chosen with reference to the positions they are to occupy. A certain relation should be maintained between the height and length in order to give a symmetrical appearance.

and two-column radiators are somewhat more efficient, for a given surface, than deeper ones. Where the space below the windows is limited, low radiators of special design are often required.

Modern fireproof building construction makes it necessary to carry the run-outs to the radiators above the floor. When they are located at some distance from the risers, it will be advisable, in gravity systems, to use radiators having extra high legs in order to secure sufficient pitch for proper drainage. When a "return-line" vacuum system is employed, this precaution is not necessary, as the suction in the return will keep the risers clear of condensation.

Wall radiators are especially adapted to the warming of toilet rooms and lavatories because they leave the floors free for easy cleaning or flushing.

Stacks for indirect gravity heating, and supplementary heaters for use with fan systems, are best made up of pin radiation or sections of similar form.

Room Temperature. All offices and banking rooms should be warmed to a uniform temperature of 70 degrees in the coldest weather. Although a corridor temperature of 60 degrees or less is ample for the comfort of those entering or leaving a building, it is best to maintain a temperature approximating that of the offices on account of those passing through to other rooms, toilets, etc., without extra clothing. Toilet rooms containing lavatories or bathing facilities should be warmed to 70 degrees, while in those of a semi-public nature, used by people dressed for the street, a temperature of 55 to 60 degrees is sufficient.

Private toilets usually have little, if any, outside exposure and are not commonly provided with heat.

The minimum outside temperature upon which the capacity of a plant should be based will depend upon the geographical location of the building. The United States Government, in the design of its Federal buildings for northern cities, bases its calculations for heating capacity upon the lowest recorded temperature in the past ten years, while for southern cities, the lowest recorded temperature + 10 degrees is taken.

Although it is very important that an office building be properly warmed at all times, it hardly seems necessary to provide a plant of sufficient capacity for the exceptional low records which occur only once in several years. In New England and the middle states a minimum temperature ranging from −10 degrees to 0 is commonly assumed.

When it is desired to provide against possible low records, the ducts may be so arranged as to allow of the air being rotated within the building, thus sacrificing ventilation for additional heat, temporarily. Dampers or doors should be provided so that by closing off the outside supply, air may be drawn through corridors and stairways, passed through the main heater, and delivered again into the lower corridor at a comparatively high temperature. This is much more economical, both in cost of installation and operation, than to increase the direct radiation throughout the building. When the building is once thoroughly warmed, a well planned system should be able to maintain a comfortable temperature, even with the outside conditions considerably more severe than those for which the plant was originally designed.

Systems of Heating. Both steam and hot water are employed in this class of work. When the former is used, it may be circulated under a low pressure, returning the condensation to the receiving tank by gravity, or a vacuum system may be employed. In combined power and heating plants using the former arrangement, the pipes should be of sueh size that the steam will circulate freely through all parts of the radiating system with a pressure not exceeding two pounds, in order that the back-pressure on the engines shall not be materially increased over that when exhausting into the atmosphere. Gravity circulation is adapted to buildings of small and medium size, requires no special devices in the way of return valves, vacuum pumps, or exhausters, and also permits of the single-pipe connection.

In larger buildings the circulation is apt to be sluggish, especially when steam is first turned on, and higher pressures are required unless the pipe sizes are considerably increased. In plants of this kind, using exhaust steam, it is usually best to employ a type of vacuum system which accelerates the circulation without increasing the pressure, does away with air valves, and makes possible a certain amount of temperature regulation by using graduated valves at the supply end of the radiators.

Hot-water heating, under forced circulation, is adapted to the same class of buildings as the vacuum steam system. The exhaust is utilized in a tubular heater, without back pressure, and the water is forced through pipes of moderate size by means of a circulating pump. In the "vacuo" system, so called, the heater is made to take the place of a condenser, either wholly or partially, thus adding to the power or economy of the engines. By circulating the water at different temperatures, according to outside conditions, a certain amount of general temperature regulation is available which is under the direct charge of the engineer, thus adding materially to the economy of operation.

Temperature Control. In the best class of work, and whenever funds are available, the heating system should be equipped with automatic temperature regulation. This is important, not only as regards the comfort and health of the occupants, but also reduces the cost of fuel, unless there is a surplus of exhaust steam available for all heating purposes.

The methods of temperature control previously mentioned are of much advantage so far as they go, but are only makeshifts when compared with an efficient system of automatic regulation. Devices dependent upon the attention of the occupants are likely to be neglected, and temperature control is usually attempted by opening and closing windows, resulting in disagreeable drafts and waste of heat.

Whatever the system of heating and ventilation, it is a most excellent plan to open the windows for a short time occasionally and flush out the room with fresh air, but it is not a good idea to sit in a draft or to remain in an overheated room for any length of time.

Piping Arrangements. When the lower floors are used for banking rooms or similar purposes, it is desirable to eliminate all steam and return piping leading to the upper part of the building. This can best be done by supplying the first-floor radiators from a separate up-feed system, and the remainder of the building from an independent line, preferably on the down-feed plan. This applies

equally to low-pressure steam, vacuum systems, and hot water. While high buildings are often heated with the up-feed system, the down-feed permits of smaller and fewer pipes through the lower stories. It also has the advantage of causing the steam and condensation within the risers to flow in the same direction, which is of much importance, especially with single-pipe radiator connections.

An important matter to be considered in this class of work is the expansion of the risers. This may be provided for either by loops and swivels or by slip joints placed six or eight stories apart. Expansion loops require less care when once installed, but are rather difficult to conceal with the modern fireproof construction. Slip joints, on the other hand, are easily installed and concealed, but are more likely to bind or leak. However, with the low pressures carried in work of this kind, the slip joint seems to give good satisfaction and is quite generally used in the best class of work.

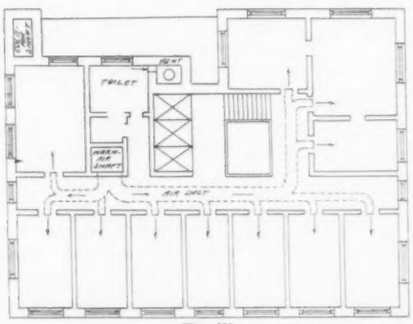


Fig. III.

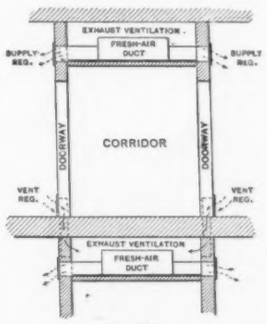


Fig. IV.

Ventilation. It has already been stated that ventilation is not usually provided for all floors in buildings of this type. There are instances, however, where the owners desire to have the entire building ventilated, or at least a considerable portion of it. When this is done, the arrangement shown in Fig. III is usually employed. This consists of a main flue, centrally located, and extending to the ceiling of the uppermost story to be ventilated. Horizontal ducts connect with this vertical shaft at each ceiling of sufficient size to supply the entire story. These ducts are concealed by a false ceiling, or furring, at the upper part of the corridor and deliver fresh air to the rooms through registers usually placed over the doors.

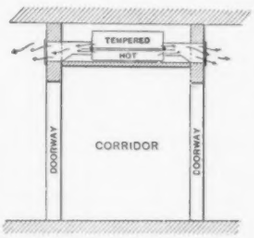


Fig. V.

Sometimes the furred-in space around the duct is utilized for exhaust ventilation, being connected with a fan located upon the roof. This general arrangement is shown in Fig. IV. The usual plan, however, is to simply supply fresh air to the smaller rooms and depend upon leakage for exhaust ventilation.

Heat is commonly furnished by direct radiation independently of the ventilating system which supplies air at 2 to 4 degrees above the normal temperature of the room.

Sometimes the double duct arrangement is employed for limited sections of a building where the rooms are elaborately finished and it is desired to eliminate all direct radiation. The hot air is carried below the tempered air, as shown in Fig. V, and the two mixed in the right proportion by a graduated damper thermostatically operated.

Ventilation of Banking Rooms. The best results are obtained in rooms of this kind by the use of fans, both for supply and exhaust. The location of these will depend somewhat upon the arrangement of the building. Ordinarily the supply outfit is placed in the basement, although in some cases it may seem best to locate it above the rooms, and discharge the air into flues leading downward. Vent flues from the first floor are usually gathered at the basement ceiling and connected with an exhauster discharging into a special shaft leading to the top of the building. There are various ways of admitting the warm air to the main banking room. If the system is to be used for heating only, and not for cooling in the summer time, it is a good plan to bring in a considerable proportion of the warm air through long narrow slots in the window sills, and through elevated registers in or near the outer wall. A certain amount should also be supplied to the public space by means of grilles along the inner wall or through centrally located columns.

Exhaust ventilation should be through grilles or registers placed near the floor, part in the base of the counter and part in both outer and inner walls, if the room is of considerable width. In long narrow rooms the fresh air is often brought in through a series of registers, about 8 feet from the floor, located in the outer wall, and the exhaust taken off through openings near the floor along the opposite side of the room. An examination of the plans of a considerable number of the latest installations of this kind shows quite a variation in treatment as to the location of air inlets and outlets. Much seems to depend upon the available space for flues, and the only general rule followed appears to be the admission of air at an elevation of 7 or 8 feet and its removal at or near the floor. In several of the plans examined, the larger proportion of both supply and vent registers were located along the same wall. When a washer or other cooling device is used, and the air is admitted in summer at a temperature considerably below that of the room, a somewhat different flue arrangement must be provided than noted above. Ordinarily the space along the outer walls, next the windows, is occupied by desks, and if the cooler air were admitted in the usual manner, it would at once fall upon the heads of those sitting below.

With systems of this kind the air should be introduced along the inner walls, or at the opposite side of the public space, and exhausted at the outer walls after having become diffused and raised to the normal temperature of the room. This arrangement works equally well with warm air, provided direct radiators and shields are placed in the windows as shown in Fig. II. Whatever the method of ventilation, a sufficient number of direct radiators, or rotation heaters, should be provided to warm the room to a comfortable temperature when the fans are not running.

In general, we may say that the air should be heated to about 72 or 74 degrees at the fan, and delivered to the room partly at this temperature and partly at a higher temperature by passing through re-heaters beneath the window flues, these being available as rotation heaters, when the fan is not running, by the manipulation of switch dampers.

Private offices may be heated by direct radiation, either encased or exposed, or by re-heaters at the bases of the supply flues. Sometimes direct radiators are screened and the air supply brought in back of them.

Volume of Air Supplied. When the probable number of occupants is known, it is best to proportion the air supply upon this basis, allowing at least 40 cubic feet per minute each. When this information is not available, a certain number of changes per hour may be provided. Under ordinary conditions from four to five changes should be furnished in the smaller rooms of an office building and from three to four in banking rooms. If the rooms are very high, the number of changes may be reduced.

In a building recently erected, a banking room 58 feet in height was satisfactorily ventilated with two changes per hour. When designing a ventilating equipment for rooms of this type, the exhaust system need have a capacity only about 0.6 to 0.7 that of the supply system, as a considerable amount of air will find its way out by leakage.

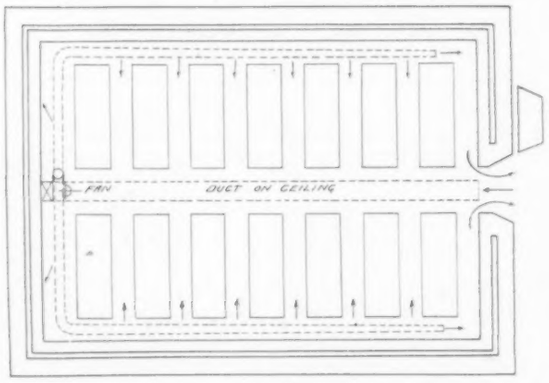


Fig. VI.

Vault Ventilation. Safety deposit and storage vaults require special treatment, because, when closed at night, there must be no access through air ducts.

There are various ways of overcoming this difficulty, one of which is shown in Fig. VI. In this case a small centrifugal fan is supported upon the wall at the rear of the vault and arranged by means of a shallow ceiling duct to draw air from the upper part of the doorway. This air being taken from a well ventilated corridor, and therefore of good quality, is delivered at several points in the rear and along the sides of the vault and passes out under a slight pressure through the lower part of the doorway. Another plan is to omit the special fan and connect with the regular ventilating system by means of a removable sleeve, which is disconnected at night when the doors are closed.

Ventilation of Special Rooms. Exhaust ventilation is provided for toilets, kitchens, lunch rooms, etc., by means of separate fans, in order to make them independent of the banking rooms. Whenever a room is likely to contain smoke or unpleasant odors, the flow of air should be outward, hence a supply is usually drawn from the corridors and discharged outboard, instead of being furnished by a special supply fan under pressure.

Rooms of the above type require from five to six changes per hour under average conditions, and often more in special cases.

Air Washing and Cooling. Air washers are now generally included in the ventilating equipment of all buildings of this type, both on account of the more healthful quality of the air supply and for protecting the building and its contents against injury from soot and dust. These devices are easily equipped for humidity control and may be used for air cooling in the summer.

The amount of cooling effect will depend somewhat upon local conditions and may be increased by taking the spray water from the city mains or deep wells. In some cases a refrigerating plant is installed, and brine or other cooling medium circulated through the heating coils.

Under ordinary conditions, a well-ventilated room may easily be kept 10 degrees lower than the outside temperature.

Announcement of Two Competitions.

DESIGN FOR FOUR-STORY APARTMENT HOUSE AND DEVELOPMENT OF LOT AT SALEM, MASS.

A CONSIDERABLE sum of money has been set aside by the Salem authorities to assist in various ways those who are desirous to rebuild in the burnt district. This fund is in the hands of trustees constituting what is known as the Salem Rebuilding Trust. Desiring to improve in the most comprehensive manner a certain tract of land within the burnt district, the Salem Rebuilding Trust invites architects generally throughout the country to participate in two competitions,—one to secure the maximum housing possibilities on the lot, the second to secure sketch plans for a four-story apartment house.

Two prizes of $100 and $75 will be offered to the designs placed respectively first and second in each.

The plans will be judged by the Trust, with the assistance of C. H. Blackall, Advisory Architect to the Salem Rebuilding Commission.

Architects who care to take part in these competitions are requested to communicate at once with the Salem Rebuilding Trust, Peabody Building, Salem, Mass.

DESIGN FOR A "MADE IN DETROIT, U. S. A.," TRADE MARK, CONDUCTED BY DETROIT BOARD OF COMMERCE.

IN AN effort to give definite form to the "Made in the U. S. A." movement, which has started sporadically in various parts of the United States and in various industries, the Detroit Board of Commerce offers a prize of $500 for the best "Made in Detroit, U. S. A.," trade mark submitted by an American designer. It is the purpose of this contest to secure a trade mark which shall represent American goods both in home and foreign markets; to secure a trade mark which shall be suitable for use on all classes of American products. It is the earnest desire of the Detroit Board of Commerce that a design for the "Made in U. S. A." trade mark be submitted by every prominent American architect and designer. Any person born in the United States, or at the time of this contest a naturalized citizen of the United States, shall be eligible to compete. All designs must be submitted on or before February 25, 1915. Any person intending to compete is requested to signify his intention. Further information and rules covering the competition may be obtained by addressing the "Made in Detroit, U. S. A.," Committee, Detroit Board of Commerce, Detroit, Mich.

EDITORIAL COMMENT AND NOTES FOR THE MONTH

Has the Tide Turned?

By ROGER W. BABSON.

SINCE the notable improvement in sentiment which has taken place in the last few weeks, as a result of the re-opening of Stock Exchanges and other favorable factors, I am often asked if the tide has really turned? There is no one who needs to forecast business conditions more than the architect. Owing to the time which must elapse between the preparation of plans and the actual construction of a building, it is very necessary for the architect to know what future conditions are going to be. When it comes to big operations the business man's idea of the difference between a good architect and the poor architect is that the former anticipates conditions and the other does not. Ex-President Walker of the Massachusetts Institute of Technology, who was the leading economist of his day, said to me once, "The difference between a successful architect and an unsuccessful one, is that the former can tell a quarter from a half dollar, while the latter can only distinguish a strut from a tie."

Since my recent trip to Washington I have been in a very optimistic frame of mind, and feel confident that the tide is turned in favor of lower money rates, more construction, better sales, and that this will soon result in a greater demand for building material. My reasons for optimism I will give briefly. Our exports are increasing at a much more rapid rate than our imports. This is not only dissipating the awkward situation in which our bankers and business men found themselves at the outbreak of the war, but if continued will lay up for us a great credit abroad. Then again, the new Federal Reserve law has begun operations. Few people realize what a large amount of funds this law will release. Whatever the ultimate results of the law may be, the immediate effects will be to loosen money and reduce rates. This must of necessity give an impetus to business, and especially construction and development work. In a personal interview which I had with John Skelton Williams, comptroller of the currency, he not only emphasized the benefit that this new law would be to business men, but assured me that his office would do everything possible to help manufacturers and merchants who are willing to continue operations and "keep the water going over the wheels," as he expressed it. The desire of the Government is now to help business in every way, and this attitude cannot help but improve conditions.

The railroads are sure to secure an increase in rates very soon. Up to the present time the administration has taken an indifferent attitude towards the railroads without attempting to interfere in any way with the Interstate Commerce Commission. I believe that now, however, the administration is convinced that the railroad situation is a definite factor in holding up a great many construction enterprises. In fact, a man very close to the President told me that he was convinced the railroads should have an increase and would do all he could legitimately to bring it about. Just as soon as the railroads get such an increase, they will again enter the market to buy goods which should give an impetus to many lines.

The farming community is abnormally prosperous and should continue prosperous for at least five years. Directly after the war the farmers became a little panic stricken and began contracting their purchases; but they have again begun to buy. Manufacturers and jobbers tell me that business is again getting normal in the farming districts and that, war or no war, these sections of the country are sure to be prosperous for some time to come.

The war is sure to be shorter than most people anticipate. From statistics received from the other side relative to the money and men involved, it is inconceivable that it can last very long. Every additional nation that enters the conflict hastens its end. I am not counting on any of the nations being starved out, but I do know that there is a limit to the mental strain the human beings can stand. In accordance with the fundamental law of action and reaction, the greater the intensity of any war the shorter its duration.

These reasons which I have given are fully substantiated by statistics on fundamental conditions, which show very clearly that construction is now at such an abnormally low point that it soon must begin to improve. I desire to make clear that I do not expect a return of real prosperity until there is some definite sign of peace; but I feel sure it will not be long before such signs are forthcoming. The end will come about through mediation and not through fighting the war to finish. Between now and then, however, I expect a slow but constant improvement in building lines rather than a continued decline, such as has been witnessed the past few months.

The greatest service which architects can do their clients is to urge them to build now. Owing to the depression which has been deepened by the war, prices of building materials have reached very low levels. Architects should urge their clients to take advantage of these low prices while they last. Iron and structural steel will probably not be as cheap again for a number of years, and it is quite certain that lumber will never be. Cement prices have reached a fairly stable basis, but they are at low levels now compared with what they will be two years from now. Prices of nails, of brick, in fact of every kind of building material are probably as low as they will be for a long time to come. Then again labor is cheaper,

particularly unskilled labor. All of these things should be seen by the architect and pointed out to his clients. He cannot do them a greater favor at the present time. The architect who is not only a good artist but also a good business man will appeal most strongly to his clients, a large number of whom are business men themselves. Although your commissions may not be so large if your purchases are made this year, yet you will make a good friend of your client and perform a patriotic service to your country by showing your clients the great advantage to them of building at the present time.

THE Forty-Eighth Annual Convention of the American Institute of Architects, which occurred in Washington, on Wednesday, Thursday, and Friday, December 2 to 4, inclusive, was in many respects notably satisfactory.

The Convention was held at the Hotel Shoreham and was unusually well attended, there being one hundred and forty-seven of a possible one hundred and sixty delegates from the various chapters present. The delegates not only represented all sections of the country, but the interest taken by the smaller chapters in the Institute work was more manifest than at any previous convention, and in discussion and debate the national point of view rather than that of special localities was evident.

The intelligent consideration of the reports of committees was materially assisted by the distribution of printed transcripts of these reports to the delegates some weeks before the Convention, with the result that all had received an opportunity to carefully read these reports and formulate opinions upon them before being called upon to discuss their recommendations. After the reading of each report there was made a report of a committee upon the report before a vote was taken. In most cases the original reports were but slightly amended, and the business of the Convention was performed expeditiously and harmoniously. The Convention opened with the President's Address by Mr. R. Clipston Sturgis, an admirable statement of the position of the Institute in its relations to public ethics and welfare. The reports of the Treasurer, couched in such terms that a very complex set of accounts became intelligible to the delegates, and the reports of the Board of Directors and of the House Committee were adopted. The report of the Octagon Building Committee was considered. The Treasurer had already recommended the appropriation of certain sums to be transferred and loaned from the reserve fund for the purpose of making careful drawings and surveys of the Octagon Building and for its repairs and restoration, and this recommendation was adopted with his report, and the House Committee reported the employment of Mr. Glenn Brown. The report of the Building Committee practically supported and ratified the Treasurer's recommendation, tabled consideration of a new building, placed the drawings and surveys to be made in the hands of Mr. Glenn Brown, and welcomed the suggestion that these drawings should be published in book form and be placed on sale.

At the afternoon session, December 2, Mr. Cram's report on Allied Art supported the encouragement of the individual artist. Mr. Coolidge's report on Government Architecture voiced the hope that a Department of Fine Arts might be established by the Government, that mutual relations between the Government and the Institute might be encouraged, which would redound to the benefit of both. Mr. Ackerman reported at length upon Public Information, advocating still further energy in this respect, both in regard to the Institute Journal and the press, and giving a résumé of excellent work already performed. The Fire Prevention report stated progress in standardizing tests and fire regulations. Mr. Ellicott's report upon Conservation of National Reserves and Historic Monuments was somewhat amended. Mr. Wood's report upon Legislation elicited considerable discussion upon the registration of architects, the general sense of the meeting being apparently in its favor, but no further action being taken. The reports upon the International Congress of Architects, and the reports upon Town Planning and National City Planning, all indicated progress. The fact that at San Francisco the architectural exhibit was not in the Art Building was deplored. Mr. Elzner's report upon the Evolution of a Basic Building Code showed the necessity for the expenditure of so large a sum in research work that it was not considered feasible, and the committee was continued.

At the evening session Mr. Zanziger in his report on Education told of the work at the ten Collegiate Schools of Architecture and elsewhere, and recommended the award of medals in these schools, the award to be made by the Beaux Arts Society, and Professor Warren and Mr. Walker stated the extent of the art courses at Harvard.

Thursday afternoon was devoted to the report of the Committee on Competitions, the present code being finally amended only by the omission of the mention of a percentage charge, and the Committee upon the Schedule of Charges, the present schedule being amended by the statement that charges were not mandatory.

In the evening in the building of the Pan American Union the gold medal of the Institute was presented to M. Jean Louis Pascal *in absentia*, being received for him by M. Jules J. Jusserand, Ambassador from France. The President of the Institute, Mr. Sturgis, presided, and the Secretary of State, Mr. Bryan, made the most extensive speeches of the evening, as the Hon. Chas. S. Hamlin, who was to have made an address, was unfortunately absent in New York. Mr. Guy Lowell, as a former pupil of M. Pascal, spoke of him as his master, and M. Jusserand, upon receiving the medal, responded in most felicitous and heartfelt terms.

The final session upon Friday morning, December 4, was devoted to the important report upon Contracts and Specifications, and the report of the Lincoln Highway Commission. Mr. Day, in making the former report, introduced Mr. King of Philadelphia, who was legal advisor for the Master Builders, and who gave a careful account of work done in the meetings of the representatives of that body with those of the Institute. The new form of contract suggested deals especially with the submission of all disputed points, whether of owner or contractor, to arbitration, and consequent absolute equity. As adopted it is a manifest improvement over the present forms.

The report upon the Lincoln Highway gave the very satisfactory information that the relations of the Institute and the Commission were of the most cordial character, and that they were to be closely associated in the work.

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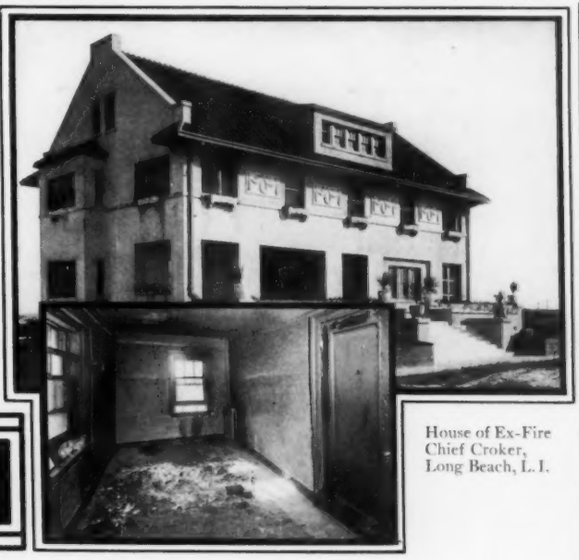

House of Ex-Fire Chief Croker, Long Beach, L. I.

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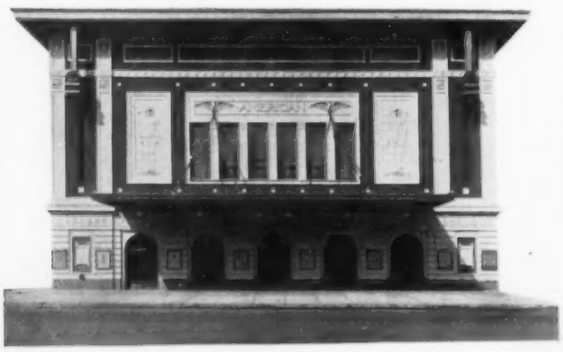

AMERICAN THEATRE
MAHLER & CORDELL ARCHITECTS

THE DOUBLE HOUSE of HOLLOW TILE

AN interesting new publication on the double house, built of hollow tile with stucco exterior. Fifty-two original designs, estimated to cost about $9,000, recently submitted in a competition conducted by The Brickbvilder, are illustrated with pen and ink perspectives and complete floor plans. Several houses of this type which have been recently built are also shown with their plans and accompanied by a description. An authoritative article on the use of hollow tile and its cost in comparison with other materials completes the book. This book is full of suggestions for architects having this type of house to design or who are interested in group planning.

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E. J. Smith, Architect, has opened offices for the practice of his profession at 325 H. W. Hellman Building, Los Angeles, Cal.

Robert Wilson Pollock, Architect, has opened offices for the practice of his profession at 1802 Chestnut street, Philadelphia, Pa.

Matt M. Marston, Architect, has changed his office address, and can now be found at 1302 Oak Grove avenue, Los Angeles, Cal.

L. D. Bayley, Architect, has moved from 49 Pearl street to Room 61, 721 Main street, Hartford, Conn.

Messrs. Brown & Von Beren, Architects, have changed their office address to 185 Church street, New Haven, Conn.

Clarence C. Palmer, Architect, formerly of the firm of Palmer & Hayden, will henceforth practise his profession in offices of his own in the National Bank Building, New Britain, Conn.

Charles M. Nye, Architect, formerly associated with Lloyd D. Willis, has opened an office at 1326 National Bank Building, Omaha, Neb.

Edward R. Newmarkel, Architect, has removed his office from Mason and Market streets to 521 Sharon Building, San Francisco, Cal.

Washington J. Miller, Architect, has moved his office from the Oscar Luning Building to the Lachman Building, 417 Market street, San Francisco, Cal.

Reid Bros., Architects, of San Francisco, have opened a Los Angeles office at 306 Douglas Building.

H. Y. Davis, Architect, and W. F. Bowen, Architect, have opened an office for the practice of their profession in the Griffith-McKenzie Building, San Francisco, Cal.

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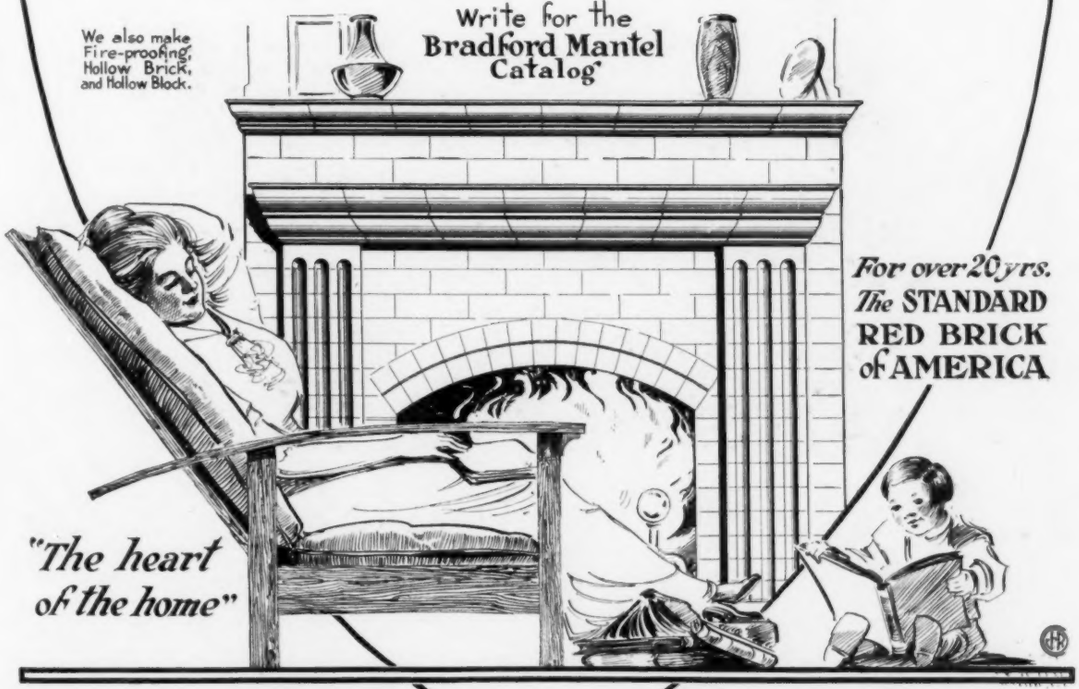

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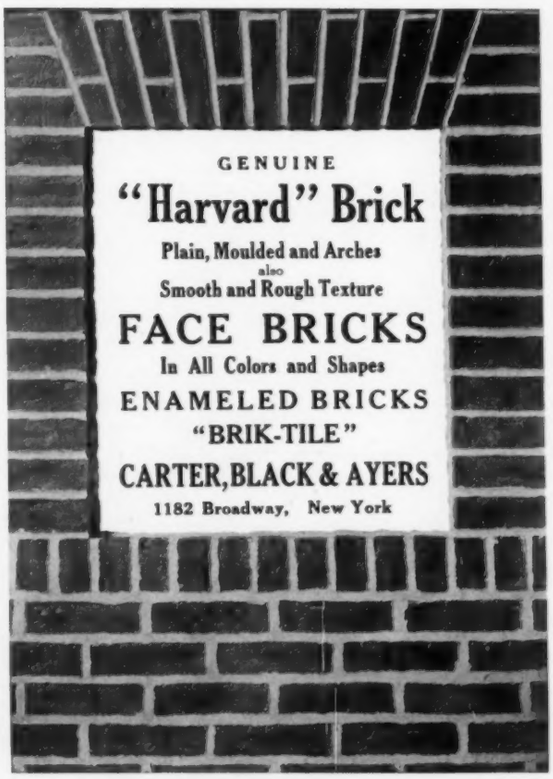

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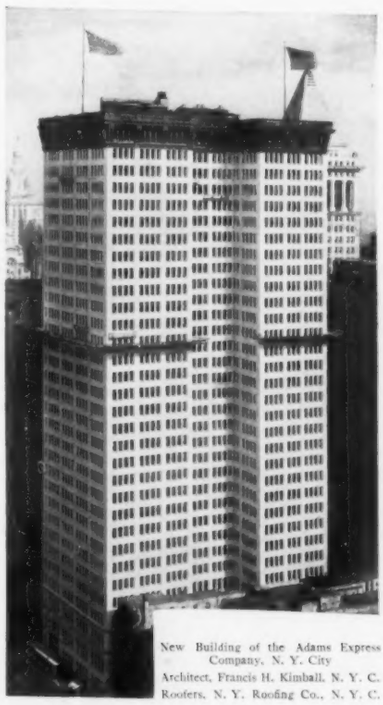

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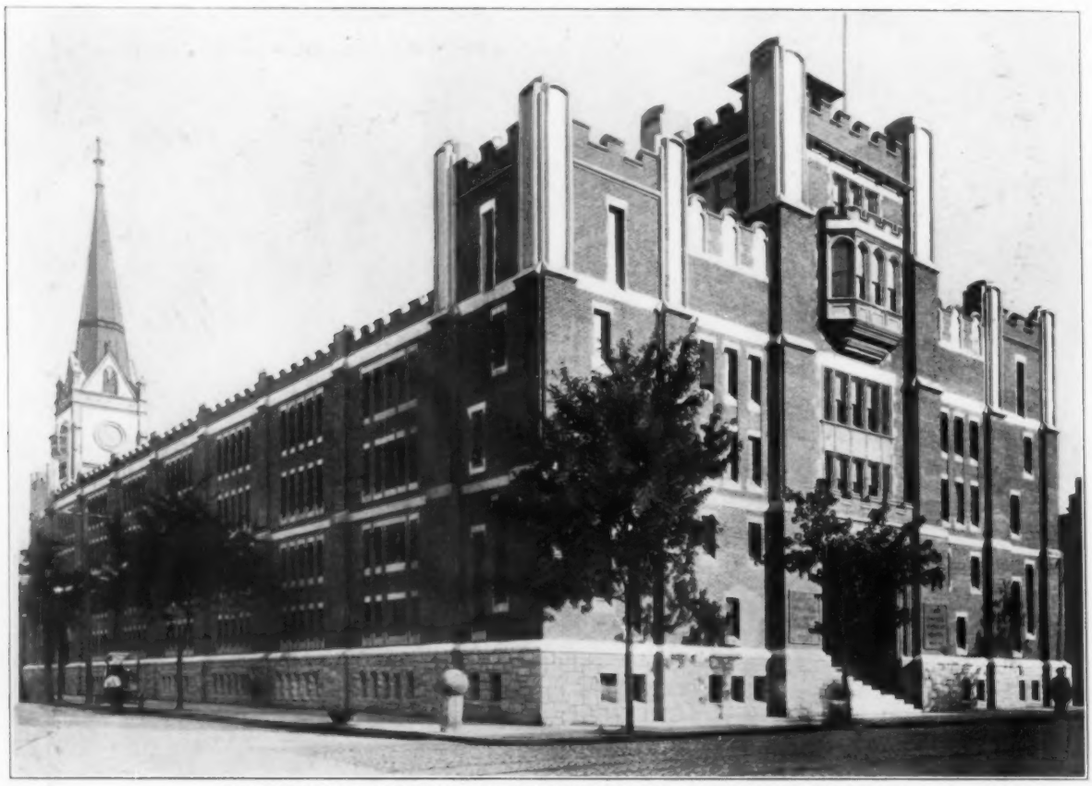

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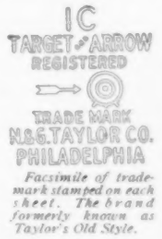

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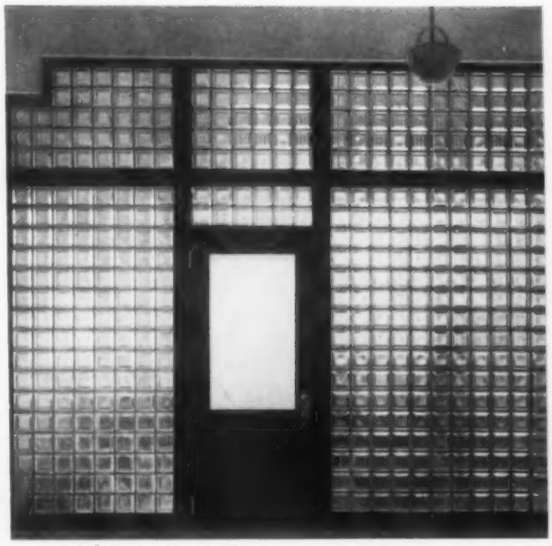

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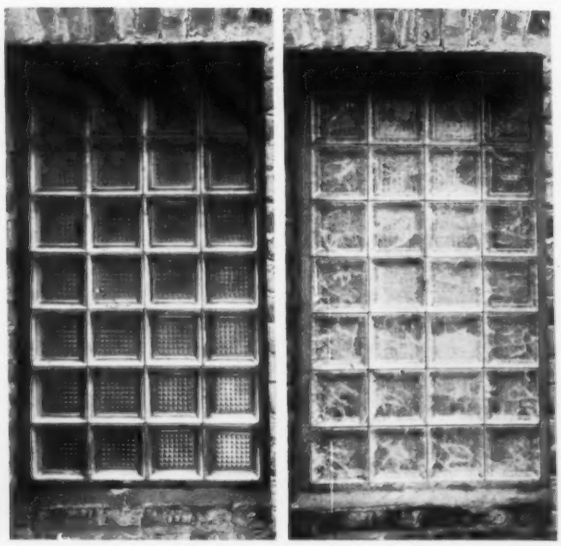

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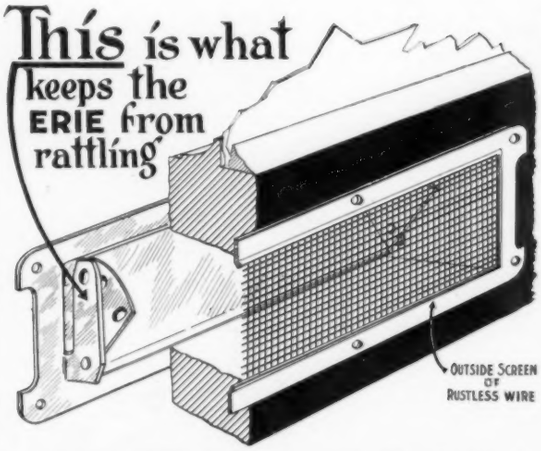

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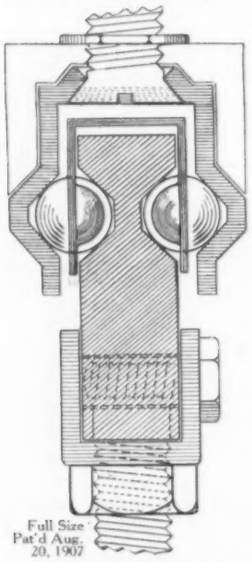

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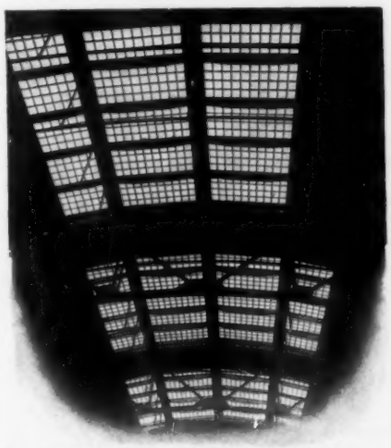

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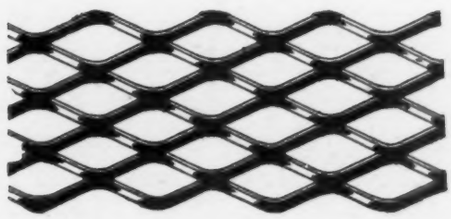

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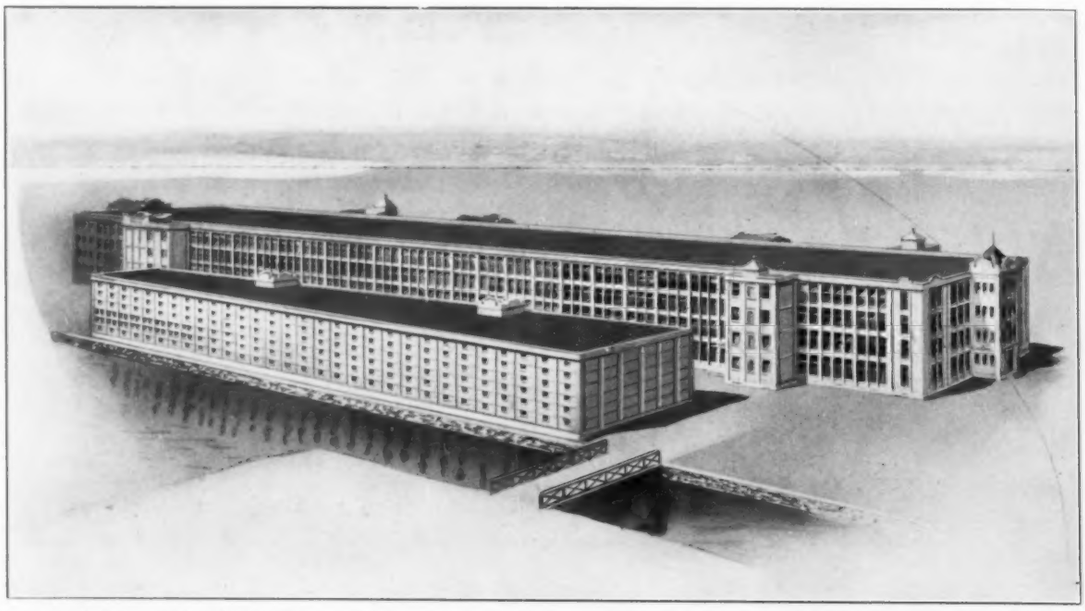

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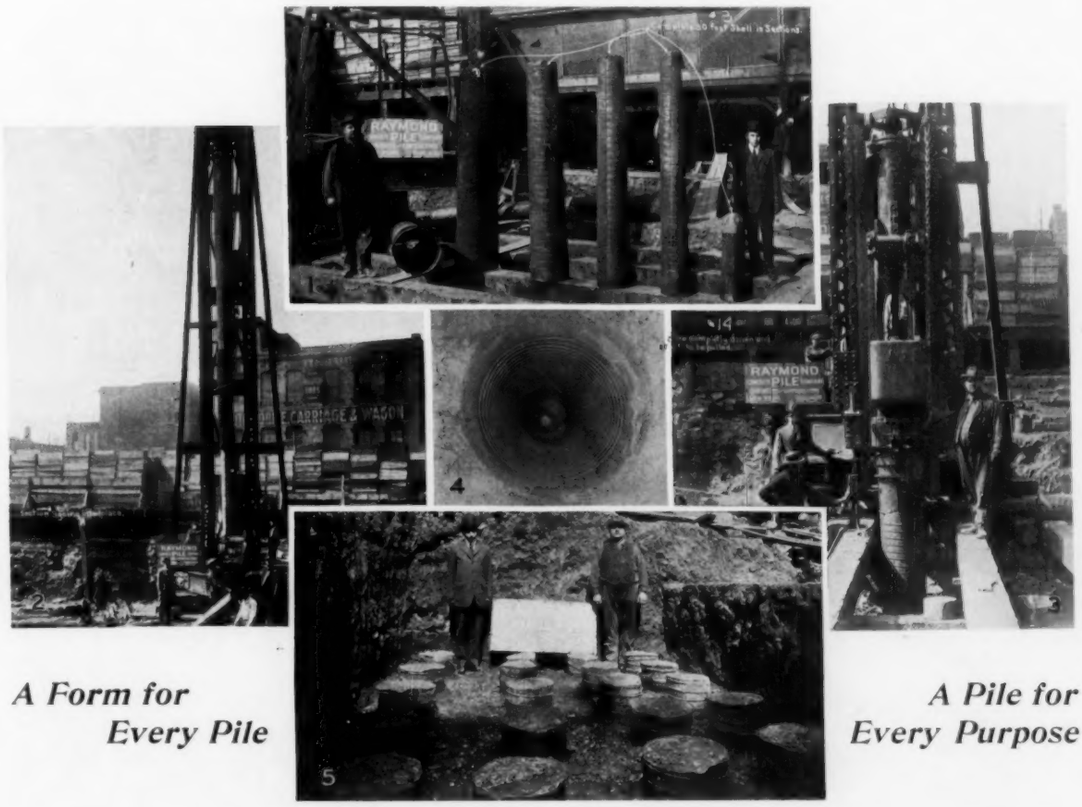

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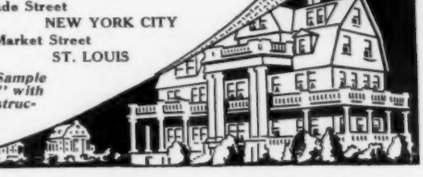

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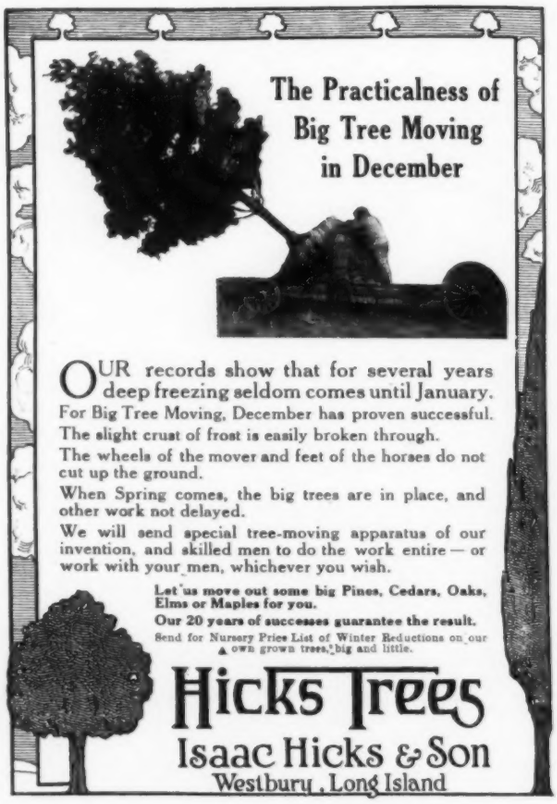
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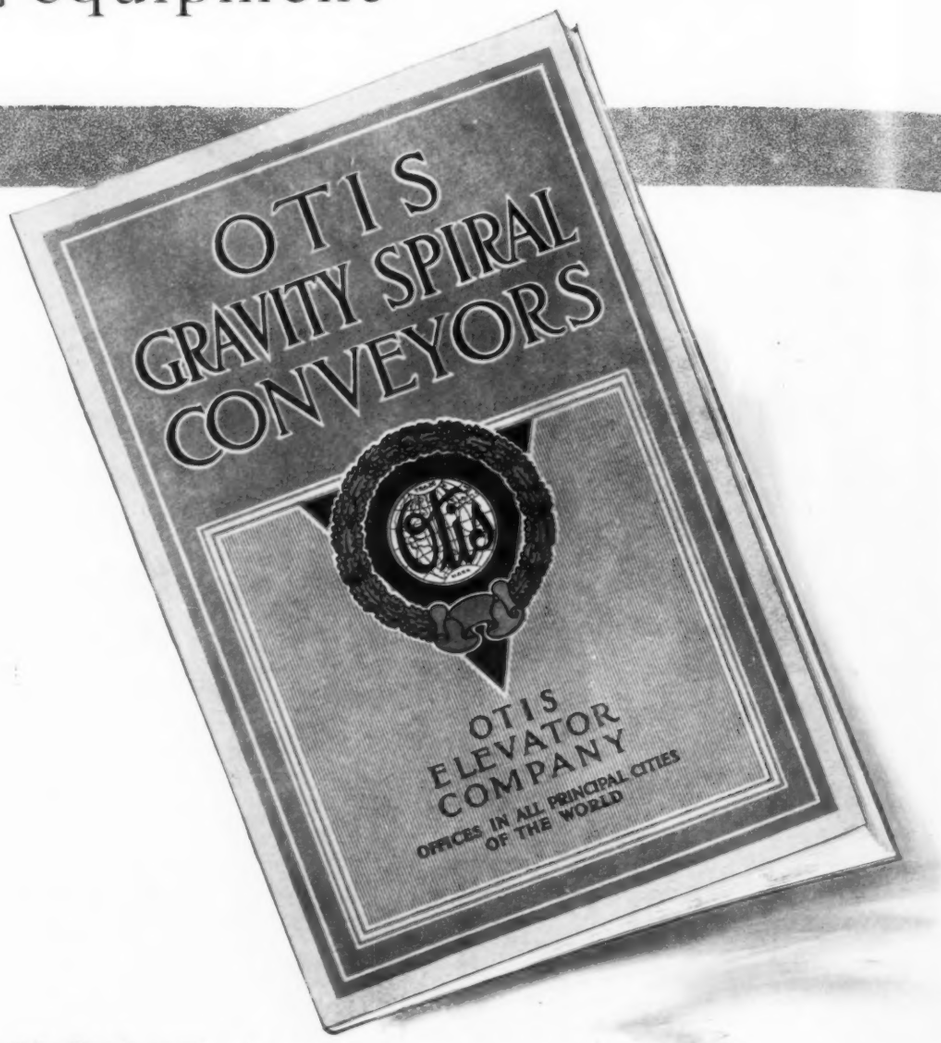

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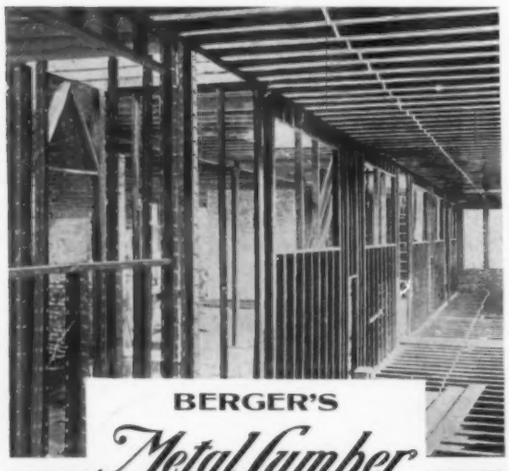

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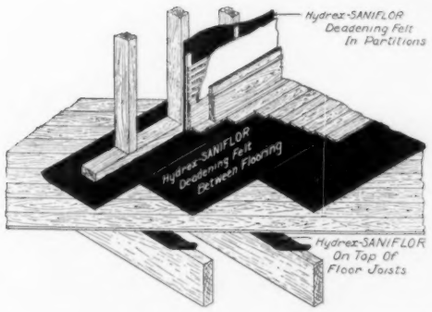
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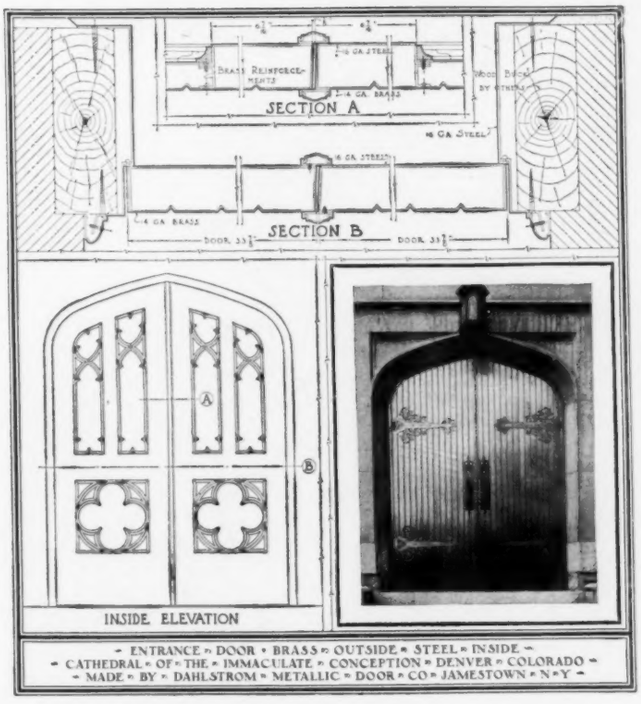
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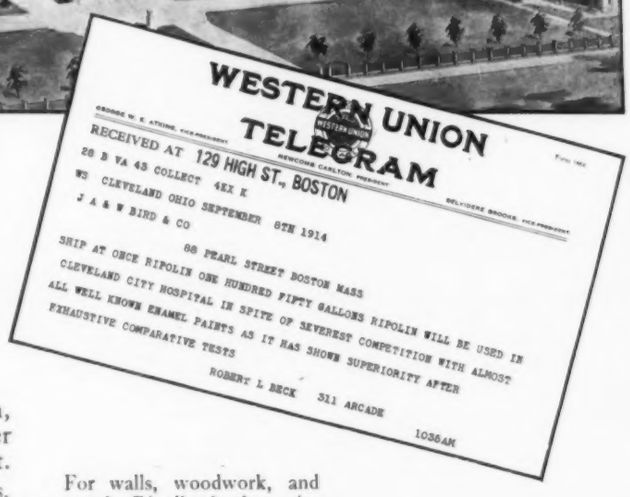
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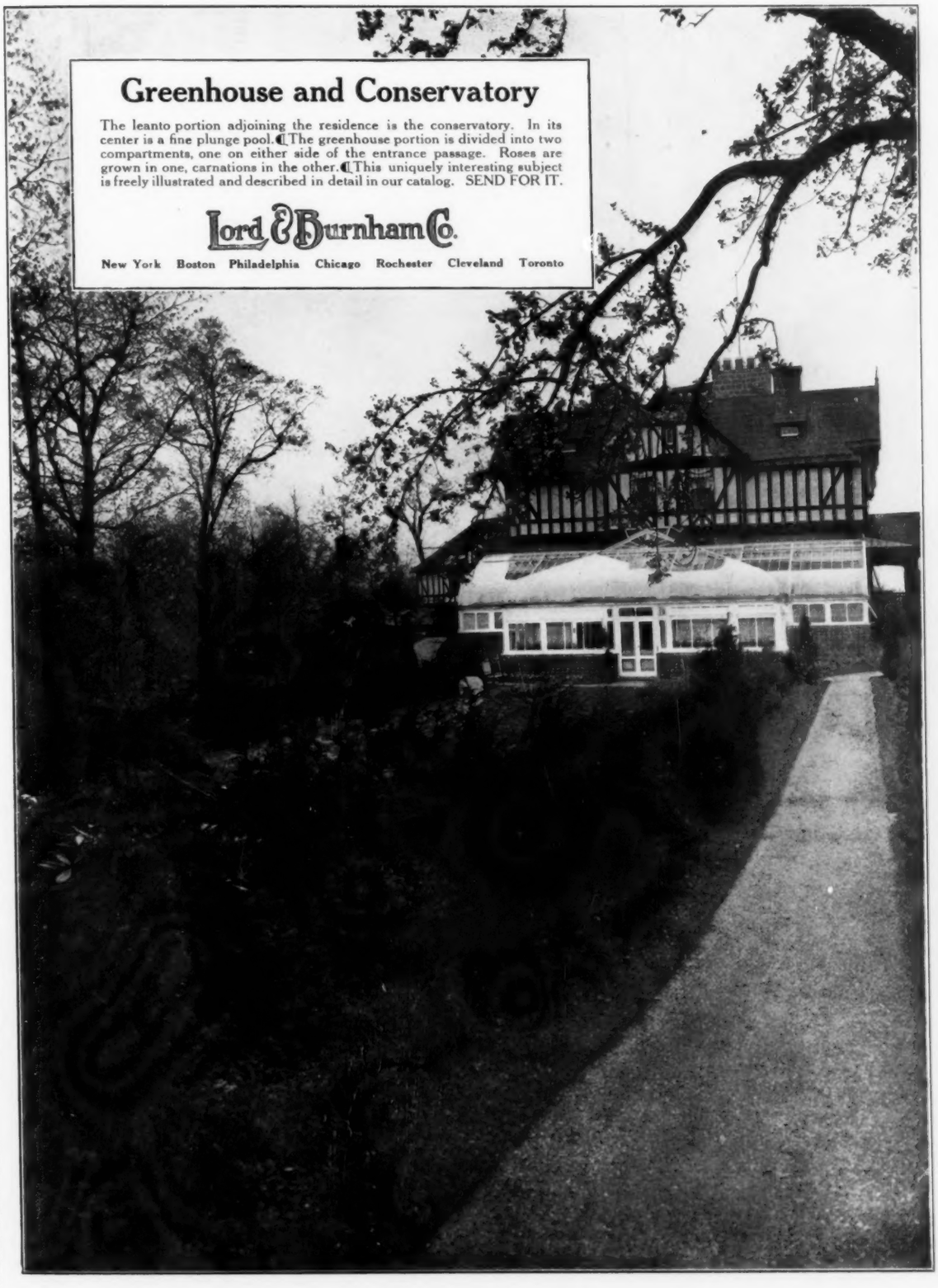
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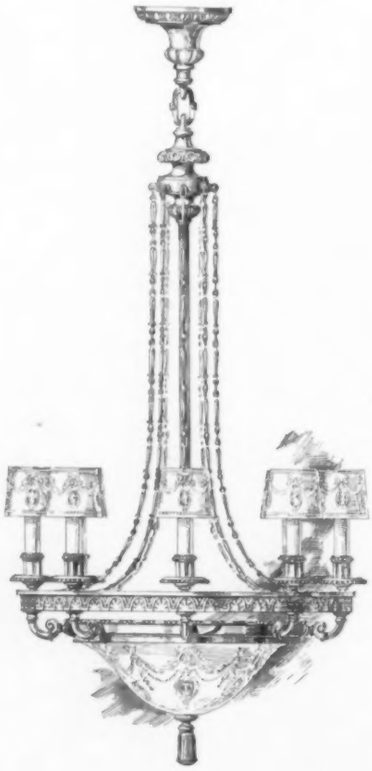

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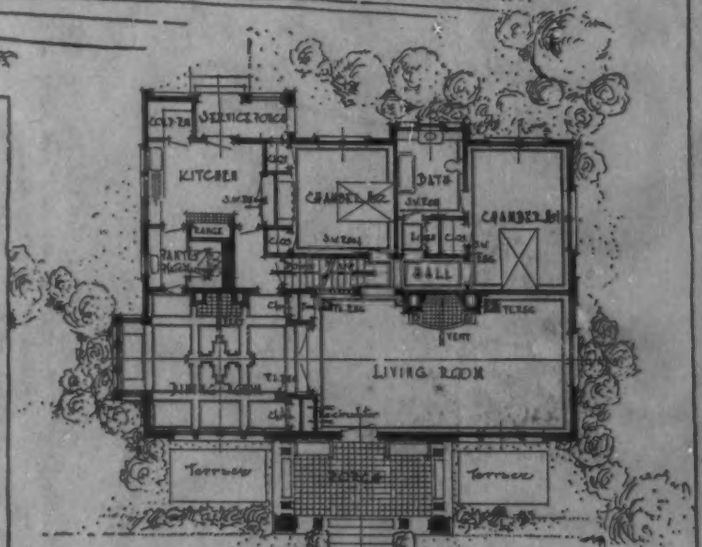

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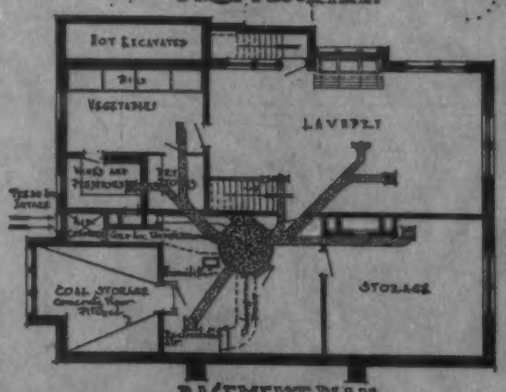

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